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Sustainable Business Concepts and Practices

Edited by: Demetris Vrontis,
Yaakov Weber,
Evangelos Tsoukatos

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FOREWORD

The Annual Conference of the EuroMed Academy of Business aims to provide a unique international forum to facilitate the exchange of cutting-edge information through multidisciplinary presentations on examining and building new theories and business models for success through management innovation.

It is acknowledged that the conference has established itself as one of the major conferences of its kind in the EuroMed region, in terms of size, quality of content, and standing of attendees. Many of the papers presented contribute significantly to the business knowledge base.

The conference attracts hundreds of leading scholars from leading universities and principal executives and politicians from all over the world with the participation or intervention of presidents, prime ministers, ministers, company CEOs, presidents of chambers of commerce, mayors, and other leading figures.

This year the conference attracted over 200 people from over 25 different countries. Academics, practitioners, researchers, and doctoral students throughout the world submitted original papers for conference presentations and publication in this Book of Proceedings. All papers and abstracts were double-blind reviewed. The result of these efforts produced empirical, conceptual, and methodological papers and abstracts involving all functional areas of business.

ACKNOWLEDGEMENT

Many people and organizations are responsible for the successful outcome of the 15th Annual Conference of the EuroMed Academy of Business. Special thanks go to the Conference Co-Chairs Prof. Maria Crescimanno and Prof. Antonino Galati, of the University of Palermo, for accomplishing a superb job. Undoubtedly, our appreciation goes to the conference hosting institution as well as to our numerous sponsors and supporters.

It is acknowledged that a successful conference could not be possible without the professional work and special cooperation of the Track Chairs and Reviewers for reviewing and commenting upon the many papers that were submitted to this conference. Special thanks also go to the Session Chairs and Paper Discussants who have managed through their interventions and discussions to make this conference a real success.

The last but not the least important acknowledgement goes to all those who submitted and presented their work at the conference. Their valuable and cutting-edge research has highly contributed to the continued success of the conference.

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BOOK OF CONFERENCE PROCEEDINGS

GOOD GOVERNANCE AND CITIZENS' TRUST IN DEVELOPING COUNTRIES: A RESEARCH NOTE FROM PAKISTAN

Ahmad, Zubair¹ ; Esposito, Paolo²

¹Libera Università Mediterranea (*Università LUM* Giuseppe Degennaro), Italy

²University of Sannio, Italy

ABSTRACT

This study aims to explore the influence of good governance on the citizens' trust of developing countries as Pakistan. The current study empirically investigated the impact of good governance indicators as participation and transparency on the citizen's trust as rational and relational in the context of Pakistan. An online survey questionnaire was sent to citizens of Pakistan through social media for data collection. These findings hold useful implications for both policy makers and future researchers as it explores public trust in Pakistani context. This study suggested that public sector of Pakistan should reshape its infrastructure to improve citizens trust. This study only explores the association between independent and dependent variables so it will be beneficial if future researchers include moderator variables to investigate the buffer effects such as corruption or unethical activities of public officials. The key to improving trust is that government should carry out its activities as per good governance rules. Such as government ensuring the transparency in its operation and improves democratic values by implementing good governance practices. This study has original research in developing countries representing the association between good governance and citizens' trust and thus opening up new ways for researchers.

Keywords: Good Governance, Citizens' trust, Rational Trust, Relational Trust, Participation, Transparency

1. INTRODUCTION

The current study empirically investigated the impact of good governance indicators as participation and transparency on the citizen's trust as rational and relational in the context of Pakistan. For many years, Pakistan is facing poor governance, where the governance system is always struggling to attain citizen's trust. For an effective democratic system, citizens' trust in government is the core element (Blind, 2007). It is observed by Kim (2005) when he explained how public officials could take decisions for the most significant interest of the country in the presence of people's trust, i.e., citizens' willingness to let public officials work more flexibly. However, too much trust in government can

wear down the idea of public accountability as elected public officials can ignore the country and the common person's welfare (Cooper, Knotts and Brennan, 2008). According to the OECD (2017a), trust guarantees cooperation between government and public, facilitating the practical application of public policies. According to Yousaf et al. (2016), good governance and citizens' trust are closely associated. Blind (2007) stated that citizens' trust arises only due to good governance. Therefore, we cannot deny the crucial importance of trust for the political system's legality and sustainability.

Citizens' trust in government is further categorized into three levels by Bouckaert (2012). The first level is the macro level, where citizens trust that democracy and public institutions are functioning effectively in the country. Second is the meso-level, where citizen trusts that policies and decisions of government about social, economic issues of the country will generate positive outcomes. Finally, at the micro-level, trust is considered the government's influence on citizens' daily lives. All these three levels of trust are interlinked so that lag at any level can significantly influence other trust levels and policy results (Bouckaert, 2012). According to Cheema and Popovski (2010), public trust in political institutions and government is declining gradually over the past few years. This situation is alarming for politicians, journalists, and even citizens as it causes harm to the overall government and society (Bok, 2002). Diamond (2007) stated that the absence of political trust in a country is detrimental to the development of a nation. As citizens, distrust in the prevailing political system of the government causes disillusionment and led to the origins of a fragile state.

In any country, whether developed or developing, effective governance is the root of sustainable growth; to ensure effective governance, all policymakers and economists' consensus needs a systematic framework of strategies (Esposito *et al.*, 2021). At the gross root level, civil services reforms, at the middle-level, improved the capacity of institutions to make policies and, finally, development and monitoring of policy reforms (Asghar, 2013). The main root of governance problems in Pakistan is the outdated induction system in the Federal Public service Commission and Provincial Service commission. For the effective functioning of a country, the recruitment system plays a vital role as the entire governance functioning of any country depends on eligible and talented actors. Ineligible bureaucrats and persons in other state institutions adversely influence system efficiency, which ultimately causes failure in the overall governance system (Asghar, 2013). Governance issues in a country can occur at four levels: legislative framework, efficiency, the capacity of institutions, and management. The legislative framework considers problems related to the state and its citizens, where the constitution of the state defines boundaries for state agencies, institutions, and agents to solve problems. Institutional capacity refers to the ability of institutions and agencies to ensure effective implementation of policies, their compliance, and evaluation.

In Pakistan, three essential components of governance are identified by Ismail and Rizvi (2010), first, decentralization of governance functions to local government level, second, recognition of corrupt practice as a basis for failure of institutional structures and detrimental for overall good governance, and third, economic and social cost of mal-governance. According to Asghar (2013), in Pakistan, four key governance issues are prevalent: public sector integrity, evidence-based policy-making system, coordination between policies and programs, and fiscal sustainability. Bukhari et al. (2014) highlight the transparency issues which hinder good governance in Pakistan. They pointed out that transparency in the governance system of third-sector organizations is necessary for enhancing organizations' credibility and goodwill (Ricci *et al.*, 2011). Bhaati and Munshi (2015) also explore the excellent governance challenge in public educational institutes of Pakistan. Their study revealed that politicians excessively interfere in official matters of educational institutes, which ultimately creates hurdles in good governance.

For many years, Pakistan is facing poor governance (Yousaf, Ihsan and Ellahi, 2016), which negatively influences citizens' trust. This paper examines the association between good governance practices (Participation and transparency) and the citizens' trust in Pakistan. Citizens' trust is studied in political trust, i.e., rational trust and relational trust.

Hence, this study is designed to answer the specific question, i.e., can we improve citizens' trust with help of good governance practices (Participation and transparency)?

This study argues that the increased trust of citizens in government is the key to improve government's legitimacy. The findings of this study contribute to the literature on good governance in a developing country, i.e., Pakistan.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. *Good Governance*

The two terms governance and good governance are extensively used in literature. Governance is referred to as a process of judgment about implementing specific state decisions (UNESCAP, 2009) or it is a process through which we can govern a state (Khan and Alam, 2020). Governance is also explained as customs, principles, and institution which facilitate a country to uphold its authority. Governance also guides a state to formulate and implement policies, to make the selection of state actors, to ensure accountability, and implementation of citizens' rights (Kaufman et al. (2010) as cited in Yousaf et al. (2016). As per citizens' perception of good governance, it is considered an improvement in the overall administration of state and public service structures (Hyder, 2019). Governance is also explained as individuals' determination to collectively find the solution to the problem and make collective decisions about the answers. The joint participation and decision-making

by citizens lead to the creation of shared social norms and institutions (Sancino *et al.*, 2018). In governance, responsibilities are not transferred in a hassle; instead, a systematic approach is used to assign obligations to certain persons, for example, election procedure for electing state actors or politicians and giving duties in public or corporate offices (Hope, 2003). Good governance practices ensure accountability and enhance efficiency at all state levels, such as in political institutions, for the administrative body, and in the economic, education, or corporate sector (Esposito, 2012). States that strictly follow good governance are in a better position to protect human rights and provide development opportunities for their citizens. In democratic countries, where good governance is considered a priority, citizens are more proficient in contributing constructively to the decision-making process, which can influence citizens' life either directly or indirectly (Beshi and Kaur, 2020). Also, it provides opportunities for citizens to put forward their opinions; finally, the essential role of good governance is the preservation of the rule of law in the country (Hope, 2003). However, in Pakistan, governance is not much satisfactory. Currently, Pakistan is facing a number of governance issues such as poor accountability, inappropriate check and balance, institutional disaster, absence of law and order and finally instable political system (Khan and Alam, 2020). These three dimensions are further explained in line with the perception of citizens. First, it is mandatory under good governance to keep check and balance on bureaucratic and political structures and functions to restrict doubted and corrupt activities. Second, citizens should have the freedom to choose political affiliation and can participate as per their will. Finally, policies for social and economic resources must be managed under appropriate authority (Braga *et al.*, 2018). Good governance indicators presented by World Bank are widely accepted; however, sound governance principles may differ according to specific conditions of each country, i.e., environmental, societal, and economic conditions and specific religion, tradition, and values. Citizens' participation in selecting government through a systematic procedure, i.e., voting, is the root of democracy (Yousaf, Ihsan and Ellahi, 2016).

UNESCAP (2009) and OHCHR (2020) also describe good governance through different elements. According to UNESCAP (2009), the following practices are good governance: effectiveness and efficiency, equity for all citizens, upholding the rule of law, participation, transparency, and accountability. In contrast, OHCHR (2020) pointed out responsibility, participation, accountability, transparency, and responsiveness as part of good governance practices.

Moreover, Waheduzzaman (2010) pointed out that participation is the most vital element of good governance as per the World Bank and the IMF. Further, impartial enforcement of legal framework comes under the rule of law dimension. The concept of impartiality is linked to the rule of law dimension by Dion (2010); the author explains this as no citizen should enjoy favoritism in the matter of rules and regulations; in other words, the law of the country should be equally applied to all

citizens (Yousaf, Ihsan and Ellahi, 2016). Another element of good governance is accountability, which is the basic building block of good governance. Shafritz and Russell (1997) believe that responsibility in a state ensures that each higher authority must be answerable for its activities to ordinary citizens. The last two elements of good governance are responsiveness and transparency. Responsiveness is explained as serving all stakeholders within a reasonable time framework; either these services are provided by institutions or by the government to citizens (Yousaf, Ihsan and Ellahi, 2016).

2.2. *Trust*

Many authors discuss how researchers could measure trust in a generalized way under different disciplines. Trust is explained through various fields, i.e., social sciences, political science, psychology, and economics (OECD, 2017). generally, trust is classified as an affective attitude, general outlook on human nature, a relation, decision, and action (Nannestad, 2008; Newton, Stolle and Zmerli, 2018). There is no single agreed definition for trust. Trust can be taken under the cognitive category, along with knowledge and belief (Hardin, 2004; Coleman and Stern, 2018). A central idea for trust is identified by Uslaner (2008), who stated trust as faith that most persons share your ethical values. Other theoretical approaches also shared a common point for trust. They pointed out that trust has a risk of the element as trust refers to a situation where one individual gives direction to another individual to influence the interest of individual. However, we cannot say that trust always creates issue for people. The only situation where an issue can arise is that where the person who is trusted can adversely influence the interest of trustee materially or otherwise (OECD, 2017). In literature, trust is further distinguished between two theories under the political trust named rational trust or utilitarian trust (Gambetta, 2000; Hardin, 2004; Nannestad, 2008) and relational trust or moralistic trust (Nannestad, 2008). The distinction between these two theories helps to understand researchers whether the trust should be defined as a belief in other individuals' trustworthiness (rational trust) or as a norm regarding how much one person should extend trust toward other individuals (relational trust) (OECD, 2017). Further, Job (2005) discussed rational trust as strategic or calculative trust. One individual considers knowledge and information about another individual, i.e., X, and calculates whether he or she will do what the first person wants. Hence, for the current study, rational trust is defined as citizens' trust in government performance (Punyaratabandhu, 2007). Job (2005) also discussed relational trust as ethical roots under which one individual belief in the goodness of another individual and expresses it as 'I trust you.' For the current study, relation trust is described as citizens' trust in public officials and Government (Punyaratabandhu, 2007).

2.3. *Good governance and citizens' trust*

Although there is no universally recognized definition of trust, it is still necessary to build trust among a country's citizens toward the state and its institutions to protect the legality of state actions. Citizens who trust the government are more likely to accept the rules and regulations of the state as compared to those who do not (Rose-Ackerman, 2001; Caillier, 2010; Lee and Schachter, 2019). Fard and Rostamy (2007) pointed out the importance of trust for public officials. They stated that public officials who are considered trusted persons enjoy more sovereignty than those who are deemed to be distrusted. Further, the concept of trust is not limited to politicians; instead, it also covers public officials. We can say that trust is an independent evaluation process that depends on citizens' perceptions. Hence, citizens' trust in government can be improved with help of increased transparency (Alessandro *et al.*, 2021). Also, if citizens trust government functioning, this does not mean that the government is working in a way that it should be; instead, it means that government functioning is in line with the citizens' preferences (Bouckaert and Van de Walle, 2003). It is found by Mangi *et al.* (2019) that citizens' trust in government or in institutions leads to effective implementation of policies. Yousaf *et al.* (2016) study a study in two populated cities of Pakistan to explore the association between good governance and public trust. They took a sample size of 1000 citizens and found positive results of good governance and citizens' trust association. Yousaf *et al.* (2016) further stated that the political and justice systems are based on citizens' trust. In any country, citizens' trust plays a dual role as it enhances social cohesion in a state, which ultimately influences government governance. Spiteri and Briguglio (2018) also found that good governance is a crucial origin of citizens' trust in government. Another study by Kunthea (2020) also analyzes the role of good governance in building citizens' trust. Further, if a government wants to provide good governance to its citizens, this is only possible with help of public trust (Gozgor, 2021). Kunthea (2020) also found that good governance practices are strongly correlated with citizens' trust. Diamond (2007) believes that prerequisites for citizens' trust-building are better governance by the government, transparent functioning, more responsibility, accountability, and improved responsiveness, more respect for rules and law, increased engagement with the public, and finally respect for the common public interest. In the current study, the researcher proposed that good governance practices positively influence citizens' trust. Hence, it is hypothesized that;

H1: *Good governance practice (Participation) positively influences rational trust.*

H2: *Good governance practice (Participation) positively influences relational trust.*

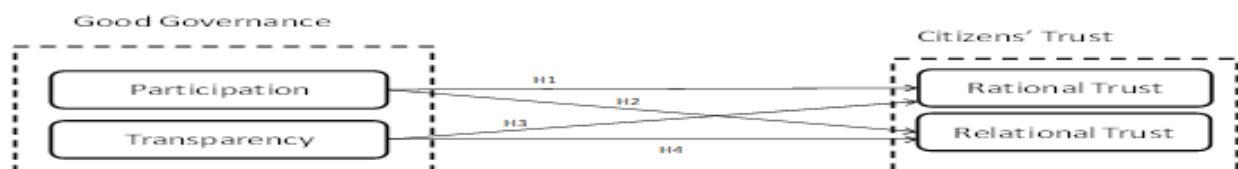
H3: *Good governance practice (transparency) positively influences rational trust.*

H4: *Good governance practice (transparency) positively influences relational trust.*

Conceptual model

In line with the research hypotheses of this study, a conceptual model is presented hereunder. Good governance is the independent variable of this study, which is studied through its two sub-dimensions named (1) participation and (2) transparency. At the same time, the dependent variable for this study is the citizens' trust, which is further studied as rational trust and relational trust.

Figure 1 Conceptual model



Source: Our own collaboration

3. METHODOLOGY

Data and Method

The current study is designed to explore the association between good governance practices and the public's trust in the political environment of Pakistan. The research approach adopted for data collection is the quantitative survey approach. Target participants of this study were citizens living in the most populated city of Pakistan, i.e., Peshawar. The convenience sampling technique was adopted in this study to access citizens easily and due to cost and time limitations. A medium sample size of 150 is chosen for current research as per suggestions of Hair et al. (1995) and Kline (2016). According to the 18th amendment of the Pakistan Constitution Act (2010), the minimum age for a person's right to vote is 18 years old. The research questionnaire was sent to citizens through an online survey link form; participants were approached through social media sites, i.e., Facebook and LinkedIn, regardless of their occupation. Data collected through the close-ended questionnaire was analyzed with help of SPSS and AMOS.

Research Measures

The questionnaire used in this study was divided into two parts. In the first part, participants were asked about gender, education, and age. In the second part of the questionnaire, participants were asked to answer close-ended questions about good governance and trust.

Measure for Good Governance

The scale for good governance was adopted from the research study of Punyaratabandhu (2017). Punyaratabandhu presented a composite scale for good governance; however, the scales for sub-dimensions of good governance were presented separately. In the current study, the two sub-dimensions of good governance are also studied independently concerning citizens' trust. The scale

for participation has six items with a Cronbach alpha of 0.701. The transparency dimension has four items, with a Cronbach alpha of 0.855 (Punyaratabandhu, 2017). The questions for participation and transparency are asked on a four-point Likert scale, i.e., (1) Agree, (2) Somewhat Agree, (3) Somewhat Disagree, and (4) Disagree.

Measure for Citizens' Trust

Citizens' trust is measured in terms of rational trust and relational trust. Rational trust is measured as citizens' satisfaction with the government's ability to solve problems. Rational trust is measured with the help of a proxy measure of satisfaction. The scale for rational trust includes three items with a Cronbach alpha of 0.837, which is adopted from the research study of Punyaratabandhu (2017). The basis of this proxy measure is that when common citizens are satisfied with the government's capability to resolve issues, they ultimately build trust in government performance (Punyaratabandhu, 2017). All questions about rational trust were asked on the Likert scale to express the level of satisfaction or dissatisfaction, i.e. (1) "satisfied," (2) "somewhat satisfied," (3) "neither satisfied nor dissatisfied," (4) "somewhat dissatisfied," and (5) "dissatisfied." Relational trust is measured in terms of citizens' trust in public officials. The five-item scale for relational trust with Cronbach alpha of 0.867 is also adopted from the same research study of Punyaratabandhu. All questions about relational trust were asked on the Likert scale to express the level of satisfaction or dissatisfaction, i.e. ((1) Don't Trust, (2) Somewhat distrust, (3) Neither Trust nor Distrust, (4) Somewhat Trust, (5) Trust.

4. RESULTS

4.1. Data Management

Data management is integral to find accurate and validated results. It helps to determine the missing values and any biases in measurement and responses. Data was collected through a questionnaire, and it was gathered from 121 respondents. Data was saved in the form of an excel sheet. First of all, the author has developed an SPSS datasheet because SPSS is used as an analysis technique. The first test was performed to see missing values or other errors in the data, in this sheet, there were no missing values, so, no treatment was needed (J. F. Hair, Black, Babin, Anderson, & Tatham, 1998). Another check was performed for any wrong entries made during the coding of the responses, it was made sure that all of the entries are correct and nothing is missing. Further analysis carries two main parts. The first part includes descriptive, model fitness, reliability, and validity testing. The second part includes the testing of hypotheses. Descriptive is measured for respondents and their responses too.

4.2. Demographic profile of targeted respondents

To see the respondents who have participated in the data gathering of research, discrete data is analyzed, and frequencies/percentages of their information have been collected. It includes gender, education, and age group.

Table 1: Frequencies and Percentages

Variable	Scale	F	%
Gender	Male	55	46
	Female	65	54
Education	Graduation	30	25
	Masters	38	31.7
	M Phil	30	25
	Ph.D.	04	3.3
	Others	18	15
Age Group	20-30	55	45.8
	31-40	30	25
	41-50	20	16.7
	51-60	10	8.3
	Above 60	5	4.2

Table number 1 represents that in respondents 55 were males and 65 were females. In respondents, the highest percentage of respondents had the education of M Phil, by scoring 31.7 percentages. PhDs were only 3.3 percent, and 18 belonged to other professions like accountants, and doctors, etc.; concerning age, the majority belonged to the age group of 20 to 50. 55 percent of respondents were in the age group of 20-30. 25 percent belonged to 31-40. 16.7 percent belongs to the age group of 41-50. Rest 12.5 percent belongs to the age group of rest of the two groups.

4.3. Descriptive of the Variables

The questionnaire was based on an interval scale; it has different ranges of values for each of the variables as per the requirement of the variable and its questions. For the first two variables transparency and participation, a scale ranging from 1-4 was used. 1 was used for strongly agree to 4, strongly disagree. The mean of this variable has scored the value of 1.493, which means most of the respondents have strongly agreed with the given statements as the mean value is around 1. Its standard deviation is 0.4, which is quite away from 1. It shows less deviation from the mean value as the percentage of deviation is low. The scale for the second variable was also from 1-4. For participation, the value of the mean is 2.954. it shows most of the respondents have responded between somewhat agreed and somewhat disagreed. But the value is more inclined towards the somewhat disagreed as the score is between 2-3 (it would be 3 If it rounded off). The standard deviation of this variable is 0.09; it's also very low. The scale value for rational trust was ranging from

1-5, 1 was assigned to strongly satisfied, and five was assigned to strongly dissatisfied. The mean value for rational trust is calculated as 3.7, which means most of the respondents are somewhat not satisfied with the statements asked for this variable. The standard deviation for this variable is 1.389. For the fourth variable of study (relational trust), a 1-5 scale is used. 1 is used for not trusted and 5 is used for testing. The mean value of this variable is 2.31. It means most of the respondents are neither satisfied nor dissatisfied. The standard deviation of this variable is 0.91; overall deviations are low (Adeogun, Abiona, Ogunjobi, & Akano, 2017).

Table 2: Descriptive values of Variables

Variables	Mean	Standard deviation
Transparency	1.493	0.424
Participation	2.954	0.974
Knowledge Sharing	3.747	1.389
Organizational Trust	2.310	0.917

4.4. Reliability of Research tool

The survey had a total of 121 responses. The reliability check is performed by measuring the value of Cronbach's alpha. If the data of the research score the value of alpha greater than 0.7, it is considered fair reliability. It's the minimum threshold that should be scored by the data. The higher or value near to 1 is considered as best. If the value of alpha is > 0.8 , it's excellent, and if the value is higher than 0.9, it shows an excellent value of reliability and can be achieved only when respondents have responded without any biases and honesty (Martz & Waller, 1982). Table number 3 represents, overall consistency score of this research data. The overall score of the research data is near 0.7 and is 0.688, which shows that the overall reliability is fair.

Table 3: Summative Reliability

Value of Cronbach's Alpha	No. Of. Questions
0.688	18

The values of Cronbach's alpha are calculated for all variables individually for further clarity. Scores for all the variables are given below in table number four.

Table 4: Variable wise reliability

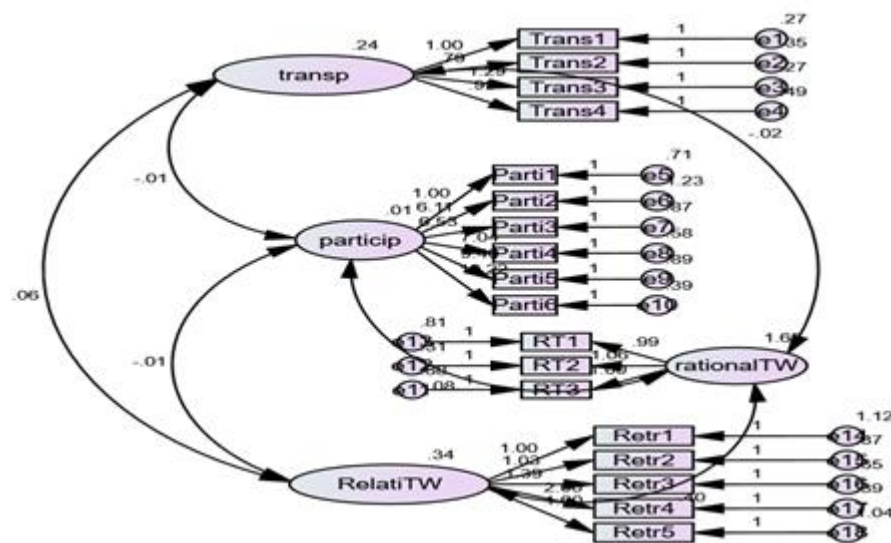
Variable's Name	Cronbach's Alpha	No. Of. Items
Transparency	0.733	4
Participation	0.728	6
Rational Trust	0.897	3
Relational Trust	0.792	5

*value of Alpha > 0.7

The value of α is 0.733 for transparency and it has 4 items. Participation has a 0.728 value of alpha. Both of these values are above the minimum threshold of 0.7. it means both of these variables carry a good consistency of data. These can be used for further analysis. Rational trust has 3 items, and it has scored 0.897 value of reliability which is near 0.9, according to the threshold, it's an excellent value. For the relational trust, there are five items and it has 0.792 scores for α . It is also a good value. Value of all variables show that all the variables in the given research framework are highly reliable (Field, 2009).

The reliability analysis depicts that the data and questionnaire of the research are highly reliable, and there is no need to delete items/variables to improve the consistency.

Figure 2: Measurement Model



Source: Our own collaboration

As per the measurement model, table number 5 represents all the values of model fitness.

Table 5: Second-Order Confirmatory Factor Analysis: Model Fitness Comparisons

Model		χ^2	$\Delta\chi^2$	Df	GFI	TLI	CFI	RMSEA	CMIN/DF
Alternative Measurement Models	One Factor	324.775	-	129	0.778	0.740	0.781	0.113	2.518

Note. χ^2 = Chi-square; Δ =Change; Df= Degrees of freedom; GFI=Goodness of the fit index,

TLI=Tucker Lewis Index; CFI=; RMSEA= Root mean error of approximation

It can be seen in table number 5 that goodness indicators of the model have scored higher values than 0.7. GFI is 0.778, TLI is 0.740, and CFI is 0.781. All of these are greater than 0.7. it indicates that the model is a good fit. The bad indicators of model fitness are RMR and RMSEA. Both have a lower value of less than 0.7. RMR has a value of 0.135 and RMSEA is 0.113; it also indicates the model's goodness. It means the model is fit for hypotheses testing. Last, the value of CMIN/DF is 2.518. It should be above 2

near 5 with a P-value of 0.000. the current analysis, it is meeting both criteria and proves the model fitness.

Validity Analysis: Before testing the first set of hypotheses, we followed the standard procedure and conducted validity analysis, confirmatory factor analysis (CFA), model fitness comparisons, and bootstrapping. The maximum shared variance and the average shared squared variance are less than the average variance extracted of all three variables (Table 6), providing evidence in favor of the discriminant validity (Hair, Black, Babin, & Anderson, 2010). The average shared squared variance is greater than 0.5 for the three variables, indicating the convergent validity of the variables (J. Hair et al., 2010).

Table 6: Validity Analysis

Variables	AVE	MSV	ASV
Transparency	0.563	0.491	0.461
Participation	0.574	0.491	0.469
Rational Trust	0.634	0.446	0.438
Relational Trust	0.526	0.482	0.468

Note. AVE= Average Variance Extracted; MSV= Maximum Shared Variance

4.5. Correlation Analysis

After analyzing the model, the fitness Pearson correlation is calculated. Its value is represented by *r*. it helps to interpret whether there is a strong relationship between two variables or not. This is an interdependent test when there is no specified independent or dependent variable. The value of “*r*” is checked at the level of 0.05 or 0.01. It shows that two variables are positively or negatively associated with each other. In other words, it represents the direct or inverse relations (Benesty, Chen, Huang, & Cohen, 2009). It is also used as representative of discriminant validity; the more the value of *r* is away from 1, both variables have interdependent dimensions. There is no overlapping among items of variables (Zeb, Rashid, & Javeed, 2011).

Table 7: Correlation Matrix

Names of Variables	1	2	3	4
1. Transparency	1			
2. Participation	.093**	1		
3. Rational Trust	.245**	.550**	1	
4. Relational Trust	-0.078	-0.070	-.0470**	1

** P value is significant = 0.01

R-value between transparency and participation is 0.093, its significant value at the level of 0.01. it shows both of the variables are positively correlated, and both are significant. Rational trust has, and transparency has a value of “*r*” is 0.245, and it is also significant at the level of 0.01. it is also a positive value. It shows if the value of transparency increases, the units of rational trust will also increase. The

value of the rational trust has a score of 0.550 in association with participation. It is also significant and positive. Relational trust has a significant association with rational trust, but it has a negative association. It means if the rational trust will increase, relational trust will be decreasing. Its score of “r” is -0.0470. The value of “r” among relational trust, participation, and transparency are not significantly associated. It means they have not a strong link with each other. All of these are significantly defined according to a P-value of 0.01.

4.6. Regression Analysis

Regression analysis helps to test multicollinearity in the research model along with hypotheses testing. In the current research, the first model has determined the value of R-square as 0.341. It shows that there is a 34.1 percent change in rational trust due to transparency and participation. There can be other variables that can be added to the model to increase R-square. The value of Durbin Watson is 1.157, which is between 1.5 and 2.5. It shows there is no issue of multicollinearity in the research model. F value is also 30, which is greater than 5, and it is significant at the value of 0.05 with its value of 0.000. All of these values are presented in table number 8.

Table 8: Multi-

co-linearity

R-square	Durbin-Watson	P-value	F-value
0.341	1.157	0.000	30.007

After checking multicollinearity and R-square, hypotheses are tested with the help of values of coefficients. It can be seen in table number 9 that the value of unstandardized beta for transparency is 0.632. It means transparency changes the 6.3 percent units of change in rational trust with one unit change of it. The value of beta is significant because its T-value is 2.601, which is greater than 1.96, and its P-value is 0.10, which is less than 0.05. It shows that there is a significant and positive relationship between transparency and rational trust. For the second variable, participation, the value of beta is 0.999, which shows that there will be a 9.9 percent change in rational trust due to it. The value of beta is significant because its T-value is 7.507, which is greater than 1.96, and its P-value is 0.000, which is less than 0.05. It shows that there is a significant and positive relationship between participation and rational trust. All of these values are presented in table number 9.

Table 9: Coefficients

Model 1	Beta	Std.Error	T-value	Significance
Transparency	0.642	0.247	2.601	0.010
Participation	0.999	0.142	7.057	0.000

Dependent variable: Rational trust

In the current research, the 2nd model has determined the value of R-square as 0.10. It shows that there is only a 10.1 percent change in relational trust due to transparency and participation. It is quite low.

There can be other variables that can be added to the model to increase R-square. The value of Durbin Watson is 1.157, which is between 1.5-2.5. It shows there is no issue of multicollinearity in the research model. F value is also 0.597, which is less than 5, and it is non-significant at the value of 0.05 with its value of 0.552. All of these values are presented in table number 10. It shows that relational trust has some issues of interdependence as well.

Table 10: Multi-co-linearity

R-square	Durbin-Watson	P-value	F-value
0.010	1.157	0.552	0.597

After checking multicollinearity and R-square, hypotheses are tested with the help of values of coefficients for this model number 2. It can be seen in table number 11 that the value of unstandardized beta for transparency is 0.156. It means transparency changes, the 1.56 percent units of change in relational trust with one unit change of it. The value of beta is insignificant because its T-value is -0.78, which is less than 1.96, and its P-value is 0.43, which is greater than 0.05. It shows that there is an insignificant and negative relationship between transparency and relational trust. For the second variable, participation, the value of beta is -0.079, which shows that there will be a 0.79 percent change in relational trust due to it. The value of beta is significant because its T-value is 0.672, which is less than 1.96, and its P-value is 0.496, which is less than 0.5. It shows that there is a significant and negative relationship between participation and relational trust. All of these values are presented in table number 11.

Table 11: Coefficients

Model 2	Beta	Std.Error	T-value	Significance
Transparency	-0.156	0.220	-0.782	0.436
Participation	-0.079	0.114	-0.672	0.496

Dependent variable: Relational trust

All of these values show that H1 and H3 are accepted, while H2 and H4 are rejected.

5. CONCLUSION

These findings hold useful implications for both policy makers and future researchers as it explores public trust in Pakistani context. This study suggested that public sector of Pakistan should reshape its infrastructure to improve citizens trust. This study only explores the association between independent and dependent variables so it will be beneficial if future researchers include moderator variables to investigate the buffer effects such as corruption or unethical activities of public officials. The key to improving trust is that government should carry out its activities as per good governance rules. Such as government ensuring the transparency in its operation and improves democratic values

by implementing good governance practices. This study has original research in developing countries representing the association between good governance and citizens' trust and thus opening up new ways for researchers.

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THE IMPACT OF CORPORATE SOCIAL RESPONSIBILITIES ON EMPLOYEES' GREEN BEHAVIOR: THE MODERATING ROLE OF ORGANIZATIONAL TRUST

Ahmad, Zubair¹; Esposito, Paolo²

¹Libera Università Mediterranea (Università LUM Giuseppe Degennaro), Italy

²University of Sannio, Italy

ABSTRACT

Drawing from social exchange theory, this study proposes to explore the association between corporate social responsibility as external CSR and Internal CSR with employees' green behavior in hotel industry. Furthermore, the author also analyzed the moderating role of organizational trust among the aforementioned associations. The target respondents for this descriptive study were employees working in the hotel industry of Pakistan. An online questionnaire link was sent to hotel managers, and is requested to share the questionnaire link with employees. The findings show that both internal corporate social responsibility and external corporate social responsibility exert a positive and significant influence on employees' green behavior. Thus it is concluded that the key driver behind the green behavior of hotel employees is the social setting of their workplace. Findings also revealed that organizational trust plays a positive role in enhancing the green behavior of hotel employees. This study extends the literature on corporate social responsibility by exploring the boundary role of organizational trust between internal and external corporate social responsibility and employees' green behavior in hotels. Moreover, CSR activities should be performed for attaining competitive edge and maintaining a balance between progress and sustainability of the environment.

Keywords: Corporate Social Responsibility, Internal Corporate Social Responsibility, External Corporate Social Responsibility, Social Exchange Theory, Employee Green Behavior, Organizational Trust, Hotel industry

1. INTRODUCTION

This study proposes to explore the association between corporate social responsibility as external CSR and Internal CSR with employees' green behavior. Furthermore, the author also analyzed the moderating role of organizational trust among the aforementioned associations. Over the previous few decades and most specifically in recent years, organizations are now more concerned

and responsive to environmental perspectives (Wolff, Gondran and Brodhag, 2018; Esposito and Ricci, 2021). Robertson and Barling (2013) stated the universal fact that a large part of environmental degradation is due to organizational activities. Nowadays, disposable products are produced extensively by industries that are wasted by customers in large quantities. Not only disposable products but also products having substantial utility values are also wasted, which ultimately leads to environmental pollution (Esposito, Dicorato and Doronzo, 2021). Therefore, organizations are now required to play the role of arbitrator and introduce innovative corporate practices such as corporate social responsibility (CSR) and implement green practices to turn adverse business practices into green practices (Caporaso, Esposito and Ricci, 2016; Suganthi, 2019). Many organizational researchers and also tourism researchers put emphasis on motivating employees to show pro-environmental behaviors at the workplace (Chou, Chen and Wang, 2012; Norton *et al.*, 2015; Afsar, Cheema and Javed, 2018).

Corporate social responsibility can be briefly explained as those types of activities that are practiced by businesses to exert a positive influence on society and the environment (Su and Swanson, 2019). Pomeroy and Johnson (2009) stated that the main purpose of businesses behind CSR implementation is the maximization of positive externalities and minimization of negative externalities, and for this, businesses often work beyond legal requirements. Many researchers such as (Bolton and Mattila, 2015; Wells *et al.*, 2016; Farrington *et al.*, 2017; Kim *et al.*, 2017; Park, Song and Lee, 2017; Youn, Lee and Lee, 2018) studied CSR in hospitality and tourism sector. Many other studies explore CSR association with the financial performance of businesses, e.g. (Lee and Park, 2009; Youn, Hua and Lee, 2015; Kim *et al.*, 2017; Theodoulidis *et al.*, 2017; Lee, Kim and Kim, 2018), with customer loyalty (Zhang, Joglekar and Verma, 2012; Kim, Cho and Brymer, 2013; Liu *et al.*, 2016). CSR is also studied in other settings, such as Baughn *et al.* (2007) have found a strong association between CSR and economic, social and political situations of a country. Another study by Babiak and Trendafilova (2011) explores the CSR role in the sports industry. They investigated the underlying factors which motivate and pressure the sports industry to implement CSR practices. CSR is also studied in the consumer behavior context by Hayat *et al.* (2020). They have found that the impulsive buying behavior of consumers is an outcome of environmental well-being and trust.

Many micro-researches on CSR are conducted on external stakeholders, i.e., customers and investors such as (Lichtenstein, Drumwright and Braig, 2004; Luo and Bhattacharya, 2006; Sen, Bhattacharya and Korschun, 2006). However, despite being important stakeholders, employees are ignored in CSR research (Larson *et al.*, 2008). CSR research in the hotel context is mostly conducted from a guest perspective or on the exploration of outcomes from a firm's perspective (Kang, Lee and Huh, 2010; Inoue and Lee, 2011; Liu *et al.*, 2014; Su *et al.*, 2017). According to Wells *et al.* (2016), despite CSR

exploration by many researchers in the context of tourists' opinions, still not enough research studies are conducted on employees' behavior. Rupp and Mallory (2015) portrays employees as key stakeholders and hence stated that employees' reaction to CSR activities is important to understand worthy social consequences of the organization's CSR activities. Likewise, other researchers have also suggested conducting future research to explore the social outcomes of CSR activities (Farrington *et al.*, 2017; Su *et al.*, 2017).

Generally, CSR practices are associated with efforts by any organization or individuals to improve the environment or at least the reduction of those activities which can harm the environment (Dueñas *et al.*, 2018). The hotel industry recklessly uses energy and water in excessive amounts (Wells *et al.*, 2016), thus also a reason behind environmental pollution. For that reason, De Roeck and Farooq (2017) were interested in exploring whether CSR practices implemented by the organization can influence employees' green behavior. Therefore, this study proposes to search for the association of CSR activities and employees' participation in green behaviors. While talking about the outcomes of corporate social responsibility, the researcher should take into account the importance of employee-company relationships (Supanti, Butcher and Fredline, 2015). Farooq *et al.* (2014) and De Roeck and Maon (2016) represent organizational trust and organizational identification as two relationship indicators. In the current study, the researcher only studies organizational trust. Mayer *et al.* (1995) describe trust as an individual's readiness to be vulnerable to the action of another individual with an expectation that other individuals will perform those actions, which will be in favor of the trustor and also other parties do not need any monitoring or control. In the current study, trust is defined as the confidence of employees that the organization will perform those activities which will be in favor of employees or at least will not exert any harmful impact on the employee (Tan and Tan, 2000). In line with the previous researchers' suggestions of exploring more social outcomes of CSR practices, in the current study, based on the social exchange theory, the researcher argues that corporate social responsibility practices by hotel management can lead employees to participate in green behavior. Moreover, for the purpose of this study, CSR is studied as an external CSR and internal CSR (Hameed *et al.*, 2016; Jones and Rupp, 2018). Hence, following the suggestion presented by Su and Swanson (2019) that CSR must be explored in terms of its dimensions, this study not only explores the direct association between CSR and employees' green behaviors but also analyzes the moderating role of organizational trust. Social exchange theory is the theoretical foundation of his study. Finally, previous researches on CSR are conducted in developed countries, e.g. (Aguinis and Glavas, 2012; Jones, Willness and Madey, 2014); following the suggestion of Rupp *et al.* (2013), this study is conducted in the developing region of the South Asian country Pakistan.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Theoretical background

2.1.1 *Social exchange theory*

Blau (1964) proposed the social exchange theory (SET) to explain the reciprocal relationships between humans. In the current study, the author used the social exchange theory for the explanation of the association amongst CSR practices employed by organizations and the green behavior of employees. In most of the researches which are conducted in the context of workplace behavior, social exchange theory is one the most significant paradigms which is used by researchers to comprehend employee's behavior at the workplace. The three main facets of social exchange theory are relationship, reciprocity, and exchange. This theory largely focuses on how human behaviors and decisions are instigated and depend on the cost and reward systems (Ahmed *et al.*, 2020). The primary aspect of social exchange theory is that when organizations support and value their employees, employees feel a sense of exchange and want to return in the same manner, such as involving in proactive behaviors (Parker, Williams and Turner, 2006; Lavelle, McMahan and Harris, 2009). According to Chiaburu *et al.* (2013), employees' efforts to take initiatives under SET can be explained as a high-quality relationship between employees and the organization. The social setting of an organization where employees work triggers employee green behavior (De Roeck and Farooq, 2018). Previous studies such as Su and Swanson (2019) and Ahmed *et al.* (2020) also found that CSR influences employees' green behavior under the social exchange context. Following this theoretical background, this theory proposes that employees who feel a sense of value at the workplace follow the rule of give-and-take and thus participate in green behaviors.

2.2 *Corporate social responsibility*

CSR is defined by Bowen (1953) efforts by organizations to follow procedures, to make resolutions, or to perform those recommended actions which are appropriate for society's objectives and values. Another definition is presented by Carroll (1979) that CSR practices are expectations which society has of the organization under economic, legal, ethical aspects. CSR has many dimensions, such as environmental, social, economic, stakeholders, and voluntary (Dahlsrud, 2008). According to Islam *et al.* (2016), all efforts by an organization that brings substantial benefits to society intending social good or social welfare, whether directly or indirectly, are considered a CSR. Other researchers such as (McGuire, 1963; McWilliams, Siegel and Wright, 2006; Aguilera *et al.*, 2007; De Roeck and Farooq, 2018) describes CSR as those types of activities which a firm do without profit-making the intention and goes beyond legal compliance. Carroll (1979) and Kotler and Lee (2005) are of the view that CSR intends to promote good causes, practices which help to highlight the ethical

position of any organization. Further, CSR activities are vital to building a productive association between an organization and its stakeholders (Waddock and Smith, 2000; Bhattacharya, Korschun and Sen, 2009; Esposito and Ricci, 2021).

A number of earlier researches are conducted on organizations' CSR efforts and organizations' financial performance measures in the hospitality and tourism context (Kang, Lee and Huh, 2010; Inoue and Lee, 2011; Lee *et al.*, 2013; Kim and Kim, 2014; Park, Song and Lee, 2017). Organizations' CSR practices and customers' attitudes and behaviors are also extensively studied by previous researchers such as (Lichtenstein, Drumwright and Braig, 2004; Sen, Bhattacharya and Korschun, 2006; Martínez and Del Bosque, 2013; Liu *et al.*, 2014). According to Su and Swanson (2019), a lot of earlier research explored CSR association with financial performance, customer perception, and customer intentions. While on the other hand, corporate social responsibility and its influence on employees is not much explored by previous researchers (Su and Swanson, 2019). Kim *et al.* (2016) studied casino employees' organizational commitment and reduced turnover intentions in relation to CSR activities. Other researchers also explore the link amid CSR activities and employees' commitment (Brammer, Millington and Rayton, 2007; Turker, 2009; Hofman and Newman, 2014). Another study by Hameed *et al.* (2016) explored CSR and organizational identification. Recently, corporate social responsibility in relation to organizational trust and organizational commitment is analyzed by (George, Aboobaker and Edward, 2020). Most recently, Ahmed *et al.* (2020) studied CSR's impact on employees' well-being and green behavior. It is now obvious from an overview of the literature that mostly CSR is studied in relation to financial performance, customers' perception and intentions, organizational trust, organizational identification, organizational commitment, and a few studies are carried out on employees' green behavior.

Corporate social responsibility is distinguished into external CSR and internal CSR by many scholars and explained external CSR refers to external stakeholders, while internal CSR refers to internal stakeholders (Verdeyen, Put and van Buggenhout, 2004; Werther Jr and Chandler, 2010; El Akremi *et al.*, 2018). Internal CSR is explained as organizational procedures and programs about employees' psychological and physiological welfare (Verdeyen, Put and van Buggenhout, 2004; Brammer, Millington and Rayton, 2007; Shen and Jiu Hua Zhu, 2011). Internal CSR comprises employees' health and security measurements, human rights respect, the balance between work and life, employee training, diversity, and opportunities without any discrimination (Vuontisjärvi, 2006; Turker, 2009; Gond *et al.*, 2011; Shen and Jiu Hua Zhu, 2011). Conversely, external CSR is described as those environmental and social practices which help organizations to improve their legitimacy and reputation in the eyes of external stakeholders (Carrol, 1979; Brammer, Millington and Rayton, 2007). External CSR comprises volunteerism, cause-related marketing, corporate philanthropy, and

protection policies for the wildlife and environment (Brammer, Millington and Rayton, 2007; C Chen, Patten and Roberts, 2008; Cornelius *et al.*, 2008). It is important to differentiate between external CSR and internal CSR as internal CSR is viewed as only self-focused, and external CSR is regarded as other-focused. Therefore, the influence of internal CSR and external CSR on employee's attitudes and behavior is also different from each other (Hameed *et al.*, 2016). For that reason, in the current study, the author analyzes the association of internal CSR and external CSR with employees' green behavior.

2.3 Corporate social responsibility and employees' green behavior

Employee green behavior is described as employees' involvement in green behaviors such as employees only perform those actions which are environmentally friendly, for example, recycling, avoiding irrational use of natural resources, concerned behavior toward environmental initiatives, and focus on the development of sustainable policies (De Roeck and Farooq, 2018). A number of previous researchers have found that citizenship behaviors (those actions of employees which are not required from them as part of work but they perform only for the sake of the well-being of society) are the result of CSR practices which are directed to employees (Erdogan, Bauer and Taylor, 2015; Gond *et al.*, 2017; De Roeck and Farooq, 2018; De Roeck and Maon, 2018). According to Raineri and Paillé (2016a), the improvement of employees' positive behavior toward the environment is dependent on employees' perception of the organization's participation in environmentally friendly programs. Kim *et al.* (2017) also found a positive link amongst CSR and organizational citizenship behavior. It is further stated by Aguinis and Glavas (2012) and Kim *et al.* (2017) that a higher level of organizational citizenship behavior is practiced by employees of those organizations which are more concerned about social responsibilities.

Based on the social exchange theory perspective, the researcher proposed that hotels that took initiatives for social causes and fulfill their social responsibility not only toward employees (internal CSR) but also toward externals such as to society, natural environment, the future generation, and NGO's (Turker, 2009) (external CSR), are more able to pursue their employees to participate in green behavior. Following the norm of reciprocity and exchange, employees show positive conduct by practicing green behaviors. Also, De Roeck and Farooq (2017) pointed out that organizational social setting is a significant trigger of employees' green behavior.

2.4 Organizational Trust as Moderator

Organizational trust is defined as one party's expectations, beliefs, assumptions about the actions of the other party that the other party will do beneficial actions or at least will not harm trustor (Robinson, 1996). Social exchange theory explains the concept of reciprocity, which is also applied in the evaluation of organizational trust. As the concept of reciprocity is the essence of social exchange

theory, it has two sub-dimensions under the social exchange process between two parties; named (1) direct vs. indirect and unilateral vs. bilateral benefits. Under the unilateral exchange process, individuals face risk in getting back benefits. This exchange upholds trust between individuals involved in a social network (Farndale, Hope-Hailey and Kelliher, 2011). An organization's CSR activities promote trust through restricted (direct) and generalized (indirect) exchange with its employees. Direct reciprocate exchange mechanism referred to the exchange process in which employees reciprocate the 'CSR toward employees.' Whereas 'CSR activities related to social and non-social stakeholders' come under the generalized exchange mechanism (Esposito and Ricci, 2017), which leads to the creation of trust between employees and organization (George, Aboobaker and Edward, 2020).

Organization trust is extensively studied as a mediator construct in CSR research, for instance (Hansen *et al.*, 2011; Gaudencio, Coelho and Ribeiro, 2017; Su and Swanson, 2019; George, Aboobaker and Edward, 2020). No significant study is found on the moderating role of organizational trust in CSR literature related to employees' green behavior. Tan and Tan (2000) and Choi (2008) pointed out that the moderating role of organizational trust exists. In the current study, based on the social exchange theory, researchers proposed that employees having high trust in an organization's CSR activities (both external CSR and internal CSR) will follow the norm of reciprocity and thus will be more involved in green behaviors. Therefore, the researcher hypothesized that;

H1a: *External Corporate social responsibility positively influences employees' green behavior*

H1b: *Internal Corporate social responsibility positively influences employees' green behavior.*

H2a: *The higher organizational trust level will strengthen the positive association between external CSR and employee green behavior.*

H2b: *The higher organizational trust level will strengthen the positive association between internal CSR and employee green behavior.*

3. METHODS AND MATERIALS

3.1 Research model

In line with the hypotheses of this study, a conceptual model for this study is presented in Figure 1. This model represents corporate social responsibility as an independent variable, which includes two dimensions: CSR toward employees refers to internal CSR, and CSR to social and non-social stakeholders refers to external CSR. Employee green behavior is the dependent variable, whereas the moderating variable is organizational trust amongst CSR and employees' green behavior.

Figure 1: Research Model



Source: Our own collaboration

3.2 Measures

All variables of this study are measured through a five-point Likert scale from (1) *"strongly disagree"* to (5) *"strongly agree."* For CSR, a 12 item research instrument was adopted from Turker (2009a), including five items for CSR toward employees (CSR internal) and seven items for external CSR (CSR to social and non-social stakeholders). The same scale for CSR is used by Hameed et al. (2016), who conducted CSR research in the Pakistani context. The sample item for CSR toward employees is *"My hotel supports employees who want to acquire additional education,"* and for CSR toward social and non-social stakeholders is *"My hotel contributes to campaigns and projects that promote the well-being of the society."* A five-item scale from Lee et al. (2013) is used for the organizational trust construct. The sample item for this scale is *"My hotel communicates openly and honestly."* A six-item scale for employees' green behavior is adopted from the study of De Roeck and Farooq (2017). The sample item for this scale is *"I fulfill responsibilities specified in my job description in environmentally friendly ways."* A detailed questionnaire is given in the Appendix.

3.3 Target population and Data collection

The target population is employees working in the hotel industry of Pakistan, specifically in Punjab. The reason behind choosing hotels as the target population is that during the previous decades, CSR became an integral part of the hotel industry as this industry is under more pressure to achieve customer satisfaction (Mohammed and Rashid, 2018). Moreover, the need for additional CSR research in the hospitality industry is clearly mentioned and recommended by previous researchers (Lee et al., 2013; Park and Levy, 2014; Youn, Lee and Lee, 2018). Hotel employees were contacted through their managers by using a convenience sampling technique. The sample size for this study was 100, as per the suggestion of Roscoe (1975), who recommended that a sample size between 30 and 500 is enough for research studies. Also, numerous scholars indicate that a sample size of 100 is enough for convergence (Ahmed et al., 2020).

4. RESULTS

The statistical tools used to test the current data set are SPSS and AMOS.

4.1 Respondents Profile

The survey showed different variables with respect to the gender of the participants—details are given in Table 2. Most of the men and women belong to the age group between age 31 and 35. 33.3% male participants and 38.9% female participants belong from the age group of between 31 and 35. And the least number of male participants were of either age 36 or more. 14% of participants were of age 36 and higher, whereas 16.7% of female participants belong from the same age group. 26.3% male participants and 13.9% female participants were from age 20 to 25 years old. 26.3% of male and 60.6% female participants belong from age 26 to 30 years old. The next variable in this survey divided participants according to gender with respect to their education. 12.3% male and 5.6% female participants had an intermediate degree while 35.1% male and 19.4% female participants had a Graduation degree. Most of the participants had a Master's degree, with female participants having a percentage of 6.9% and 50.9% male participants had a Master's degree. No male participants had M.Phil. and 8.3% of females had M.Phil. Only 1.8% male and 2.8% female participants had a Ph.D. degree. 38.6% of male participants in this survey have 1 to 2 years of experience, and 33.3% of females have the same amount of work experience. 29.8% of Male participants of this survey have 2 to 5 years of experience in the field, while the rest of 31.6% of male participants had the experience of 5 years and above. 33.3% of female participants have experience of 2 to 5 years in the field, and the rest of the 33.3% of females had the experience of 5 years or more.

Table 1: Demographics with respect to gender

Variables	Gender	
Age	Male	Female
20 to 25 years old	26.3%	13.9%
26 to 30 years old	26.3%	30.6%
31 to 35 years old	33.3%	38.9%
36 years old or above	14.0%	16.7%
Education		
Intermediate	12.3%	5.6%
Graduation	35.1%	19.4%
Masters	50.9%	63.9%
M.Phil.	0.0%	8.3%
PhD degree	1.8%	2.8%
Experience		
1 to 2 years	38.6%	33.3%
2 to 5 years	29.8%	33.3%
5 years and Above	31.6%	33.3%

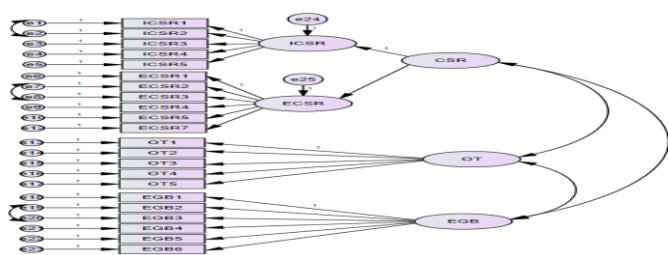
4.2 Measurement Model

The measurement model selected to test the current survey is Confirmatory Factor Analysis (CFA). Model fitness was tested using 23 items. The factors which are considered for testing are; Chi-square test indicated as (CMIN/df), root means square error of approximation (RMSEA), comparative fit index (CFI), and Tucker-Lewis Index (TLI). The chi-square value is 2.243, which is smaller than 3 as per given threshold showing the significant result. The value obtained from CFA of CFI and TLI is 0.910 and 0.900, respectively, indicating that the results are significantly good, although if the values should be greater than 0.95, it means that model fitness is very great. The root means square (RMSEA) is considered great if the value is less than 0.05, but the value obtained is 0.087, which is also good.

Table2:Model Fit Indices

INDICES	THRESHOLD	MODEL MEASUREMENT VALUE
CMIN/DF	< 2 great; < 3 good	2.243
RMSEA	< .05 great < .08 good	0.087
CFI	> .95 great; > .90 good	0.910
TLI	> .95 great; > .90 good	0.900

Figure 2: Confirmatory Factor Analysis



4.3 Descriptive

Descriptive statistics is a basic analysis for testing quantitative data. The descriptive analysis describes the behavior of the data set (Loeb *et al.*, 2017). The mean of gender is 1.39, and the standard deviation is 0.490. The mean and standard deviation of age is 2.44 and 0.994, respectively. The mean is 3.59, and the standard deviation is 0.797 for the education level of respondents. The experience mean is 1.96, and the standard deviation is 0.83.

Table 3: Descriptive

	Mean	SD
Gender	1.39	0.490
age	2.44	0.994
education	3.59	0.797
experience	1.96	0.833

4.3.1 Reliability and Validity

After conducting the confirmatory factor analysis and achieving model fitness, the validity and reliability of the data were tested. The validity basically explains the data collection for a survey in terms of measuring what is being intended to measure (Taherdoost, 2016). Composite reliability counts for the overall reliability of the data set and is indicated as CR. The average variance extracted (AVE) measures the variances from constructs and should be greater than 0.50. The reliability of CSR is 0.931, considered very good as per the given threshold. The CR of OT is 0.948, and EGB is 0.818. Both results are considered reliable. The values achieved for validity are also significant. These results are shown in Table 4.

Table 4: Reliability and validity

	CR	AVE	MSV	ASV
Threshold	> .90 great, > .80 good	AVE > .50	MSV < AVE	ASV < AVE
Corporate Social Responsibility	0.931	0.704	0.653	0.666
Organizational Trust	0.948	0.784	0.502	0.081
Employee Green Behavior	0.818	0.703	0.617	0.085

Note: CR (Composite Reliability), AVE (Average Variance Extracted), MSV (Maximum Shared Squared Variance), ASV (Average Shared Squared Variance)

4.3.2 Correlation Analysis

Correlation is measured to find out the strength of the relationship among several variables (Senthilnathan, 2019). The correlation matrix tested in SPSS is given in table 5. Along with correlation results, the means and standard deviations are also given. The results show significant relationships among all variables. The mean of ICSR, ECSR, OT, and EGB are 3.58, 3.73, 3.72, and 3.75, respectively. The standard deviation of ICSR is 0.95, ECSR is 0.85, OT is 0.81 and EGB is 0.82. The correlation between ICSR and ECSR is significant, showing a value of 0.654. The correlation of ECSR with OT and EGB is also significant, showing the value of 0.712 and 0.788, respectively. OT has a significant path with ICSR as 0.846 and also with EGB as 0.757. The EGB is also positively correlated with ICSR with a value of 0.622.

Table 5: Correlations and Descriptive

	Mean	SD	1	2	3	4
1.ICSR	3.58	0.95				
2.ECSR	3.73	0.85	.654**			
3.OT	3.72	0.81	.846**	.712**		
4.EGB	3.75	0.82	.622**	.788**	.757**	

N: 93, ** = $p < .05$

4.4 Moderation Analysis

In the current study, moderation is tested through a process macro of Hayes and Preacher (2013). The macro is used in SPSS. The H2a is supported as the results illustrated by the upper level 0.1734 and lower-level confidence interval 0.0728, and the estimate of H2a is (β : 0.0503). Hypothesis H2b is also positively significant as the upper-level confidence interval is 0.1454, and the lower-level confidence interval is 0.0774 means that both intervals are in the same direction indicating significant results and H2b estimate is H2a is (β : 0.0629) is also significant. The results are shown in Table 6.

Table 6: Moderation

Hypothesis	Variables	Estimates	Standard Error	The upper-level confidence interval	The lower-level confidence interval
H2a	ICSR \otimes OT \otimes EGB	0.0503	0.0620	0.1734	0.0728
H2b	ECSR \otimes OT \otimes EGB	0.0340	0.0561	0.1454	0.0774

4.5 Discussion

The mechanism of the current study underlays the use of organizational trust (OT) as a moderator between CSR and EGB. As per the previous studies, CSR has a positive influence on the generation of employee green behavior (Su and Swanson, 2019; Ahmed *et al.*, 2020). The present study has used the theoretical framework of social exchange theory to justify the research model. As per the study of Memon, Ghani, and Khalid (2020), the influence of social exchange is direct to employee behavior; the greater the social exchange, there will be stronger the effects of employees' positive behavior towards the organization (Farooq, Farooq and Jasimuddin, 2014). The results for hypothesis 1a and 1b are consistent with the study of (AlSuwaidi, Eid and Agag, 2021). CSR is a prominent indicator of the pro-environmental behavior of employees. The perception of employees regarding hotels' CSR undertakings can affect employees' attitudes in a positive manner in the workplace, and employee green behavior is one of those attitudes. In the hospitality industry, there is a considerable relationship between CSR and employee green behavior (Zientara and Zamojska, 2018; Luu, 2020).

It has been seen that in numerous associations, ICSR and ECSR have grabbed hold inside in everyday activities, and now associations are seeing the green behavior of employees (Kim, Lee and Kang, 2018) in their investigation infers that employees who go about as great corporate residents, the organization effectively draws in them in projects that advance the kind-heartedness of employees inside their association. Also, (Farooq, Farooq and Jasimuddin, 2014) propose that an organization that bolsters the activities of ICSR and ECSR uncovers its speculators that it thinks about the general public, environment, and employees. As indicated by (Ghoul, Guedhami and Kim, 2017) positive view

of ICSR and ECSR improves the green behavior of employees. Numerous examinations have researched that the worker view of firms' ICSR and ECSR programs convey employees green behavior in the workplace, which will bring about supportive practices (De Roeck and Farooq, 2018). Raineri and Paillé (2016) infer that when employees see that their organization takes an interest in environment-saving projects, employees additionally display environmentally green practices (Ahmed *et al.*, 2020). The current study has tested the moderation of organizational trust between ICSR and ECSR with employee green behavior. There were two hypotheses that were devised to test the moderation of organizational trust (OT), and the empirical testing illustrated the significant relationship between CSR and EGB. The results are in parallel with the finding of the study done by (George, Aboobaker and Edward, 2020). CSR exercises can be viewed as a pointer of reasonableness toward society. Subsequently, employees' trust can be guaranteed through CSR exercises pointed toward profiting society (Boğan and Dedeoğlu, 2019).

Organizational trust is considered as one the major drivers for employees' positive behavior and attitude, as proposed in the current study. OT helps to keep strong the relationship between employees and organizations. As suggested by Ertürk (2010), organizational trust helps develop a sense of attachment to the organization in employee perception. CSR and organizational trust are studied by several researchers, and the findings are positive (Serrano Archimi *et al.*, 2018; Nguyen *et al.*, 2020). In spite of the fact that there is expanding thoughtfulness regarding ICSR and ECSR in the literature of management, little is thought about the limit conditions disclosing employees' reactions to ICSR and ECSR. A few employees may be positive toward the ICSR and ECSR, and others may be apathetic or restricted to it. Consequently, this investigation inspects the directing job of OT with ICSR and ECSR (De Roeck and Maon, 2018). The investigation uncovers that OT directed the impact of CSR on EGB. The examination further found through testing that the impact of ICSR and ECSR on OT is more grounded for employee green behavior.

5. CONCLUSION

The findings show that both internal corporate social responsibility and external corporate social responsibility exert a positive and significant influence on employees' green behavior. Thus it is concluded that the key driver behind the green behavior of hotel employees is the social setting of their workplace. Findings also revealed that organizational trust plays a positive role in enhancing the green behavior of hotel employees. Therefore, it is concluded that the hotel should focus on improving employees' trust in the organization to provoke employees for green behaviors. The findings of the current study also proposed a number of managerial implications. Nowadays, corporate social responsibility is considered a crucial part of corporate business activities. Hotels that utilize corporate

social responsibilities are more capable of development and to attract more customers as now customers are more concerned about social responsibilities. First, this study recommends hotel managers that they should communicate with employees about corporate social responsibilities activities. Additionally, communication strategies by hotel managers also help to develop trust in employees. The current study is limited to the Punjab region of Pakistan; future researchers are recommended to conduct a study in other regions of Pakistan. Future researchers can consider mediating variables in the same theoretical formwork, such as organizational commitment, job satisfaction, and employee well-being

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THE INFLUENCE OF GREENWASH ON GREEN PURCHASE INTENTIONS; THE MEDIATING ROLE OF GREEN BRAND LOYALTY

Ahmad, Zubair¹ ; Esposito, Paolo²

¹Libera Università Mediterranea (*Università LUM* Giuseppe Degennaro), Italy

²University of Sannio, Italy

ABSTRACT

Based on the attitude-behavior-context theory, this study proposes to explore the intervening mechanism of green brand loyalty between greenwashing of food industries and their customers' green purchase intention. The direct influence of greenwashing is also explored in relation to green purchase intention and green brand loyalty. A cross-section survey technique is used to collect data from study participants. Primary data of this study is analyzed through descriptive statistics analysis, correlation analysis, confirmatory factor analysis, Hayes process Macro for mediation analysis with the help of SPSS and AMOS. The results indicate that the green purchase intention of consumers is negatively influenced by the greenwashing perception of consumers. Also, it is confirmed in the current research that greenwashing is not only negatively associated with green purchase intention but also negatively influence the green brand loyalty of consumers. However, green brand loyalty exerts a positive impact on green purchase intention. The mediating role of green brand loyalty is also confirmed between greenwashing and green purchase intention relationship. The results of the current study recommend that businesses should eliminate greenwashing practices to increase their consumers' green purchase intention and to develop green brand loyalty.

Keywords: Greenwashing, Green Purchase Intention, Green Brand Loyalty, Food industries, Attitude-behavior-context theory

1. INTRODUCTION

This study proposes to explore the intervening mechanism of green brand loyalty between greenwashing of food industries and their customers' green purchase intention. The direct influence of greenwashing is also explored in relation to green purchase intention and green brand loyalty. Nowadays, customers' demands and behaviors are continuously changing due to emerging trends of environmental protection and green marketing. Consumers are now more conscious about environmental protection, prefer an eco-friendly lifestyle, and also expect that green products can

provide personal benefits (Marchand and Walker, 2008). Green practices are now extensively executed by a number of organizations such as food packaging, tourism, fashion, architecture, and government (Leonidou and Skarmas, 2017). However, many authors pointed out that some organizations find a new idea of greenwashing in which they only pretend that they care about green practice, but in reality, they are not concerned about green business strategies (Stephenson, Doukas and Shaw, 2012; Smith and Font, 2014; Guo *et al.*, 2017a; Siano *et al.*, 2017). Besides, spreading false claims about green strategies can help organizations to get enough capital, expenses reduction and can even trigger stakeholders' pressure (Aras and Crowther, 2008; Husted and Allen, 2009; Jonsen *et al.*, 2015; Rahman, Park and Chi, 2015; Esposito and Ricci, 2017; Esposito *et al.*, 2021).

According to Chen *et al.* (2015) and Goh and Balaji (2016), consumers are now keener to purchase green products due to their eco-friendly lifestyle preferences. Due to environmental considerations, consumers' demand for green consumption is also increasing, which pushes an organization to show their concern for social responsibilities and thus represents the green corporate image in the eyes of consumers (Esposito, Dicorato and Doronzo, 2021). Dahl (2010) is of the view that consumers often look at green marketing practices of an organization as greenwashing, as they believe that actual transferred environmental benefits from organizations are less than promised ones. Delmas and Burbano (2011) explain greenwashing as an exaggeration by an organization about their environmental practices.

Existing research studies on green marketing are mostly carried on greenwashing practice and on its antecedents. Lyon and Montgomery (2015a) and Newton *et al.* (Newton *et al.*, 2015) highlighted the fact that no much research is done on how much greenwashing influence the green purchasing intention of consumers or the consumers' inclination to purchase products or to avail of services that are produced or delivered in an environmentally friendly manner. An organization that claims fulfillment of social responsibility is in a better position to sell its products at higher prices, as consumers are also willing to buy these high process products (Grimmer and Bingham, 2013). Despite consumers' willingness to buy higher-priced products, they can withdraw their willingness anytime if they come to know about organization greenwashing (Chen, Lin and Chang, 2014). Existing literature on greenwashing and consumer purchase intention validates a negative association between them (Chen and Chang, 2013); yet, influencing mechanism of greenwashing on consumers green purchase intention is still under-studied (Zhang *et al.*, 2018).

Greenwash practices are extensively used by an organization, which can adversely influence customer belief about organizations green marketing claim and also can weaken consumers' ability to push firms for green sustainability in business operations. Companies often advertise about their green practices, which they claim to maintain in business operations and for products manufacturing

(Esposito, Ricci and Sancino, 2021), however same companies also deceive consumers through greenwashing which in turn hamper consumers' purchase decision (Hamann & Kapelus, (2004) as cited in Chen et al. (2020).

The purpose of the current study is to explore whether and how the greenwashing perception of customers negatively influences consumers' purchase intention in the food industry of Pakistan, as research on the food industry's greenwashing behavior are few in numbers, specifically in developing countries (Nguyen *et al.*, 2019). To the best of the researcher's knowledge, no study on greenwashing behaviors of food industries in Pakistan is carried out in the recent past. Further, the researcher also proposes to explore the mediation role of green brand loyalty between greenwashing perception and green purchase intention of customers. This study is conducted to answer the following research questions;

Q1: What are the relationship among the greenwash perception of the food industry's consumers and their green purchase intentions?

Q2: Is green brand loyalty mediates the association between the greenwash perception of consumers and their green purchase intentions in the food industry of Pakistan?

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Attitude-behavior-context theory

In order to understand the relationship between consumers' perception of greenwashing and green purchase intentions, attitude-behavior-context theory (ABC theory) is used in the current study (Guagnano, Stern and Dietz, 1995). According to Feldmann and Hamm (2015), the main idea behind ABC theory is a mean-end approach, which implies that individuals first align their acts with the gains which they expect to get as a result of behaviors. ABC theory is the most useful and extensively used framework to understand how certain behaviors emerge from attitudes (Goh and Balaji, 2016). Ajzen (2005) stated that individuals evaluate objects on the basis of some ratings, such as their beliefs, perceptions, and outcomes. Hence, we can say that ABC theory is the central framework for behavior prediction and explanation. Feldmann and Hamm (2015) further identified some contextual factors that are the basis of human behavior, i.e., personal relationships costs, availability, and social trends. They further pointed out that it is not necessary that all attitudes will be transformed into expected behaviors. 'Context' is explained as a medium that facilitates attaining certain behaviors; however, in some cases, it can act as a restraint factor. According to Sirieix et al. (2013), context can be a mediator or reinforce between attitude and behavior relationship. Therefore, in ABC theory, the most important dimension is the interaction of contextual factors and consumers' attitudes (Salonen and Åhlberg, 2012). Hence, it is necessary for researchers to pay attention to those situational or contextual factors

which may trigger or restrict the green behavior of consumers (Zhang *et al.*, 2018). Hence, in line with ABC theory, this study presents a research model that shows the mediating role of consumers' green brand loyalty between their greenwash perceptions and green purchase intentions.

2.2 *Greenwashing*

Greenwashing term was introduced in 1980; Dahl (2010) is explained greenwashing as making offensive and overstated statements about maintaining sustainability to get more market shares. Laufer (2003) stated that the extensive use of this term by corporations reflects their anxiety to sustain their reputation in the market. The corporation represents false claims in front of financial communities, the general public, and laws and regulations agencies to hide their actual problems and guilt (Junior *et al.*, 2019; Campra, Esposito and Lombardi, 2020). For organizations, the easiest way to manage public perceptions about their brand is greenwashing. Firms present misleading information in such a way that it leads to the public a situation where they think everything is legalized and correct. According to Seele and Gatti (2017), nowadays, many social and environmental audits are used in place of public supervision to overcome the problem of greenwashing.

Initially, greenwashing practices among corporations were not used widely; however, due to the increase in consumers' demand for green and organic products, this practice becomes common in firms. Another reason behind the increased use of greenwashing is the laziness of regulatory agencies, which do not take any notice and also do not bother to control this bad practice through parameters and standards (Dahl, 2010). Chen and Chang (2013) identified that the cost of implementing and maintaining environmental sustainability is high, which pushes firms to choose a stress-free path, i.e., greenwashing, to exploit sustainable consumption.

2.3 *Greenwash and Green purchase intention*

Greenwashing is defined as intentional misleading or cheating actions of firms through which they disseminate false information about their environmental actions in order to repair their image in the eyes of the general public and to build a new good reputation in the market (Lyon and Maxwell, 2011; Marquis, Toffel and Zhou, 2016). Further, firms only disclose that positive environmental information that reflects their concern about the environment and deliberately hide that information, which shows their negligence toward environmental protection (Lyon and Maxwell, 2011; Bowen and Aragon-Correa, 2014; Marquis, Toffel and Zhou, 2016; Seele and Gatti, 2017). In literature, the focus of researchers on greenwashing, its consequences, and its types is growing rapidly, i.e. (Lyon and Montgomery, 2015b; Seele and Gatti, 2017). Different types of firms are identified by previous researchers, such as silent green firms, vocal green firms, greenwashing firms, silent brown firms, no greenwashing firms and false greenwashing firms (Delmas and Burbano, 2011; Seele and Gatti, 2017).

Explaining negative consequences of greenwashing, scholars identified that greenwashing not only exert negative influence consumers interest, shareholders, investors, regulatory bodies, financial interests, firm's reputation, environmental protection department and whole society (Walker and Wan, 2012; Leonidou *et al.*, 2013; Du, 2015; Guo *et al.*, 2017b).

Green purchasing intention of consumers is explained by Netemeyer *et al.* (2005) and Newton *et al.* (2015) the probability that consumers will purchase products which match with their environmental views and will only buy products from those firm which claims to follow environmental friendly processes and also reputable for following green strategies (Dueñas *et al.*, 2018). However, Goh and Balaji (2016) pointed out that consumers may stop purchasing products from a company if they have doubts that firms' claim about the implementation of green strategies or consumers found strong evidence about greenwashing practices. Consumers develop opinions about hidden motives of organizations, which exert a negative influence on attitude formation, which ultimately hampers the purchase intention of consumers (Nyilasy, Gangadharbatla and Paladino, 2014).

A number of previous research studies are conducted on greenwashing phenomena in different contexts, i.e. (Chen and Chang, 2013; Rejikumar, 2016; Avcilar and Demirgunes, 2017; Akturan, 2018; de Jong, Huluba and Beldad, 2020; Karimi Sarame, Esmailpour and Mobasher Amini, 2020; Tarabieh, 2020; Torelli, Balluchi and Lazzini, 2020). A recent study by Zhang *et al.* (2018) is conducted on the association of greenwashing and green purchase intention. They found that with the increase in the greenwashing perception of consumers, their green purchase intention significantly decline. Zhang *et al.* (2018) found a negative and significant correlation of -0.361 between greenwashing perception and green purchase intention. Another study by Nguyen *et al.* (2019) also found a negative correlation between green food purchase intention and greenwashing perception of consumers. Therefore, in the current study, it is argued that when customers of Pakistani food brands have high greenwashing perceptions, they will not be more inclined to purchase food products from the same brand.

2.4 Greenwash and Green brand loyalty

Loyalty is referred to customers' actions which they constantly repeat, i.e., customers buy products, brands, or avail services more than once. According to Dick and Basu (1994) and Oliver (1999), consumers' commitment, which reflects through repurchasing of preferred products, brands, or services, is known as loyalty (Chen *et al.*, 2020). Furthermore, Dick and Basu (1994) also explain loyalty as individuals' faithfulness and commitment to repeat purchase for a product, brand, or service. For the purpose of the current study, green brand loyalty is defined as the repurchase intention level of consumers, which is triggered due to consumers' commitment to a brand and strong attitudes toward environmental sustainability (Chen, 2013). Chen (2013) further stated that if a company wants to grow green products sale and want to gain strong brand loyalty of their consumers, and the only way is that

the company should improve green products' functionality. Chen (2013) also pointed out that environmental concerns of consumers are the key triggers behind consumers' brand loyalty. The key hindrance in the way of green marketing is greenwashing, as it pushes consumers to think that all green claims are always false (Horiuchi *et al.*, 2009).

Gillespie (2008) stated that in the green market, greenwashing practice is more prevalent than green business strategies. Due to the extensive use of greenwash by firms, consumers are not able to differentiate between true and false green claims, and thus it ultimately exerts a negative impact on consumers' loyalty toward environmental protection (Chen *et al.*, 2020). Slaughter (2008) found that greenwash of firms exerts a negative impact on the green brand loyalty of customers. More recently, Nguyen *et al.* (2019) also found a negative influence of greenwashing perception on green brand loyalty of consumers who preferred to purchase green vegetables. Another study by Chen *et al.* (2020) also concluded that greenwashing perception and green brand loyalty are negatively associated with each other. Therefore, it is argued that the greenwashing practice of Pakistani food brands can hamper their consumers' loyalty, and consumers may stop buying products from them.

2.5 Green brand loyalty and green purchase intention

Customers' loyalty toward a brand, product, or service takes place in three steps, first cognitive sense, second, affective sense, and then finally, conative sense, which is also known as behavioral sense (Oliver, 1999, as cited in Chen *et al.*, 2015). It is stated in the literature that if a firm wants to improve the purchase intention of its customers, the only way is increased customer loyalty (Chi, Yeh and Yang, 2009). The same fact is asserted by Souiden and Pons (2009) that customer loyalty is the basic reason behind the purchase intention of customers. According to Malik *et al.* (2013), the antecedent of consumer purchase intention is consumer loyalty. Further, Traiq *et al.* (2013) stated the fact that a higher level of purchase intention of consumers is related to a higher loyalty level of consumers to brand, product or service. However, if a firm deceives people about their environmental performance through dishonest advertisements, it can restrict customers from buying products from the same brand (Kalafatis *et al.*, 1999, as cited in Chen *et al.*, 2015). In the environmental era, firms always strive to grab green opportunities due to the increased concern of consumers for environmental sustainability (Pomering and Johnson, 2009). Consequently, consumers who are loyal to environmental sustainability realize that firms are concerned about environmental sustainability, their purchase intention is automatically increased (Chen, 2010). A study by Chen *et al.* (2015) also found that the purchase intentions of consumers are due to their loyalty. Therefore this study proposes that green brand loyalty of consumers toward food brands positively influences their intention to purchase products.

2.6 The mediating role of green brand loyalty

In hypotheses 1 and 2, this study proposes that the greenwash perception of consumers directly exert a negative influence on their green purchase intention and green brand loyalty. However, based on attitude-behavior-context theory, it is argued that greenwash can indirectly influence the green purchase intention of consumers through the mechanism of green brand loyalty.

Therefore, it is hypothesized that;

H1: *Greenwash perceptions of consumers negatively affect the green purchase intention of consumers in Pakistan.*

H2: *Greenwash perceptions of consumers negatively affect the green brand loyalty of consumers in Pakistan.*

H3: *Green brand loyalty of consumers positively affects their green purchase intentions in Pakistan.*

H4: *Green brand loyalty mediates the negative association between consumers' perception of greenwashing and their green purchase intentions.*

Research framework

Figure 1 represents the conceptual framework of the current study, whereas greenwash is the independent variable, green brand loyalty is a mediator, and the dependent variable is green purchase intention.

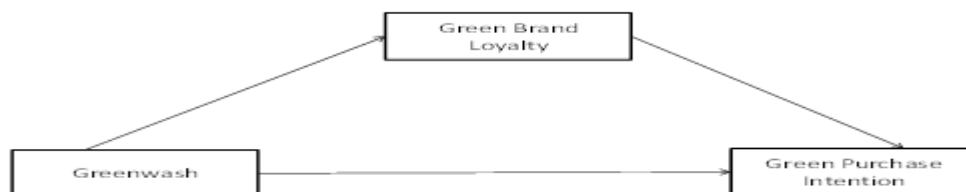


Figure 3 conceptual framework

3 RESEARCH METHODOLOGY

3.1 Data collection and participants

The unit of analysis in current research is consumers of green products, data is collected through cross-section survey research technique. An online link to the research questionnaire was sent to different individuals studying business in the universities of Punjab, Pakistan. Business students are chosen as target participants as these individuals have more knowledge about environmental issues and green marketing (Ali *et al.*, 2011). The questions included in questionnaire were close-ended. The research approach is quantitative and the sampling technique adopted in the current study is convenience sampling, subject to cost and time limitations. In line with Kline's (2016) suggestion, a moderate sample size of 130 is chosen for the current study. Data collected through the research questionnaire is analyzed on SPSS and AMOS.

3.2 Research measures for variables

The research questionnaire for the current study includes questions about participants' demographics, such as age, gender, and the highest level of education. All questions on research variables were asked on a five-point Likert scale. Following the method used by Chen et al. (2020), participants are first asked to identify a food brand from the given list to answer questions about greenwashing perception, green purchase intention, and green brand loyalty about food brands. After that, we request participants to consider their chosen brand as the focal brand of questions. A five-item scale for the greenwashing perception of consumers is adopted from the research of Chen and Chang (2012). The sample items included in the questionnaire are "This food brand deceives me by means of words in its environmental features." The scale for green purchase intention contains three items, which is adapted from the research of Mohd Suki (2016). The Cronbach alpha for the green purchase intention scale is 0.874. The items for green purchase intention included in the current study are; (1) "I intend to buy the green product because of this food brand's environmental concern," (2) "I expect to purchase green products in the future because of its environmental benefits," and (3) "Overall, I'm glad to purchase the green product because it is environmentally friendly." The measurement scale green brand loyalty is also adapted from previous research studies. The measurement scale used for green brand loyalty is already used by Chen et al. (2020) with a Cronbach alpha of 0.913.

4 RESULTS

The data analysis tests are done by SPSS and AMOS. The data was extracted through an excel file from online surveys.

4.1 Demographics

The response rate is 90% as the questionnaires distributed were 130, and only 117 questionnaires were returned and are incorporated in data analysis.

4.1.1 Distribution by Classifications

Dividing the participants according to age, we can see that 71.9% of the male participants belonged to the age group of 20-30, whereas 63.9% of the female participants belonged to this age group. 15.8% of the male participants were between the ages of 31 years and 40 years, whereas 19.7% of female participants were from this age group. 7% of the males had aged between 41 and 50 years old, whereas 9.8% of female participants were between the ages of 41 years and 50 years. 5.3% male participants and 6.6% female participants had the age of either 51 years old or above. 1.8% of the male participants and 8.2% of the female participants had a Ph.D. level education. 5.3% of the male participants had M.Phil. level education and 16.4% of female participants had M.Phil. 22.8% of the

male and 21.3% of the female participants had Masters level education, whereas 40.4% of the male participants were graduated, and only 26.2% of female participants were graduated. 29.8% and 27.9% of male and female participants respectively had some level of education, which was not mentioned in the survey. 29.8% of the male participants and 34.4% of the female participants earn below 10,000 rupees. 28.1% of the male participants and 18% of the female participants earn between 10,000 and 30,000 PKR. 21.1% male and 32.8% of the female participants are earning a stable income between 30,000 and 60,000 PKR. While 21.1% of male and 14.8% of female participants are earning above 60,000 PKR. Out of all the participants, 70.2% of the male participants chose Nestle over Omoro, and 73.8% of female participants did the same as well. 22.8% male participants and 23% female participants chose Omoro over Nestle. 7% and 3.2% male and female participants respectively chose neither of the brands mentioned in the survey.

Table 1: Demographics by Classification

Variables	Male	Female
Age		
20-30 years	71.9%	63.9%
31-40 years	15.8%	19.7%
41-50 years	7.0%	9.8%
51 and Above	5.3%	6.6%
Education Level		
Ph.D.	1.8%	8.2%
M.Phil.	5.3%	16.4%
Master	22.8%	21.3%
Graduation	40.4%	26.2%
Others	29.8%	27.9%
Income in PKR		
Less than 10,000	29.8%	34.4%
10,000-30,000	28.1%	18.0%
30,000-60,000	21.1%	32.8%
Above 60,000	21.1%	14.8%
Brand		
Nestle	70.2%	73.8%
Omoro	22.8%	23.0%
others	7.0%	3.3%

4.2 Reliability and Validity

For all the study variables, the average variance extracted (AVE) ranges between 0.65 to 0.89 which means that the results are significant. The CR means composite reliability of all the constructs is greater than 0.70, means all value are significant (Fornell and Larcker, 1981). The current test recommends that discriminant validity shows valid results as its values are greater than 0.50. The values of MSV and ASV are also significant because, as per the threshold, they should be smaller than discriminant validity, and so are they.

Table 2: Reliability and Validity

	CR	AVE	MSV	ASV
Threshold	> .90 great, > .80 good	AVE > .50	MSV < AVE	ASV < AVE
Greenwash	0.878	0.691	0.371	0.104
Green Purchase Intention	0.788	0.685	0.501	0.436
Green Brand Loyalty	0.768	0.631	0.431	0.369

4.3 Correlation

The correlation analysis illustrates the connection among two or more than two variables. It basically reviews the strength of existing relationship (Sensuse, Cahyaningsih and Wibowo, 2015). The coefficient of relations is identified by -1 to +1 values, the strong relationship is inclined towards +1 and the bad relationship is towards -1. When there is no relationship that exists, the values would be shown by zero. Table 5 shows the Pearson coefficients for correlation among greenwash, green purchase intention, and green brand loyalty. The results show a moderately strong relationship between GW and GP (0.436**) and a strong correlation between GP and GBL as (0.622) and a moderately weak correlation between GW and GBL (0.361). However, all these results are considered significant.

Table 3: Correlation Analysis

Variables	1	2	3
1.Greenwash	1		
2.Green Purchase Intention	.436**	1	
3.Green Brand Loyalty	.361**	.622**	1

Note: $p < 0.01^{**}$, $N=117$

4.4 Measurement Model (CFA)

The model is measured by evaluating the model fitness through confirmatory factor analysis CFA. The model helps to identify the consistency among the research model and the data actually gathered.

The fitness for model is shown in Table 6. Firstly, the ratio of chi-square and degree of freedom (CMIN/df) is given which is 1.195 and is great as per the fixed threshold. The next value illustrated in table is root mean square error of proximation (RMSEA) and is 0.041 less than 0.05 means highly significant. Next is CFI; confirmatory fit index, its threshold says that the value is showing great fitness if it is more than 0.95, and the in current data set, the CFI is 0.982. next to it is TLI; Tucker-Lewis Index with the same threshold as CFI, and the obtained value is 0.976 means highly significant. And finally, the GFI (goodness of fit index) is also significant, showing the value of 0.922.

Table 4: Model Fitness by CFA

Indices	Threshold	Model Measurement Value
CMIN/df	< 2 great; < 3 good	1.195
RMSEA	< .05 great < .08 good	.041
CFI	> .95 great; > .90 good	.982
TLI	> .95 great; > .90 good	.976
GFI	> .95 great; > .90 good	.922

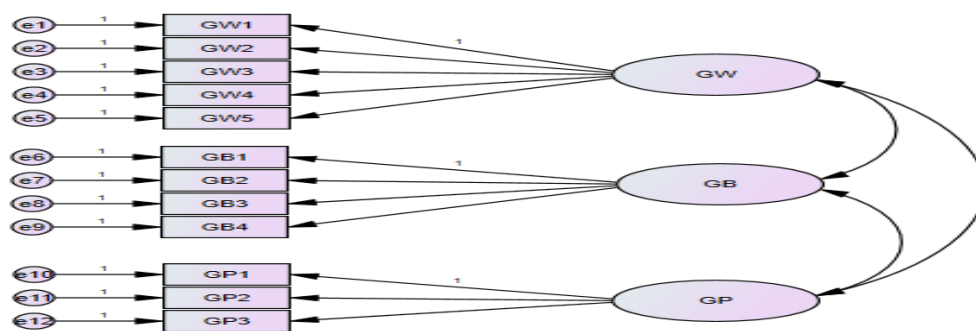


Figure 4: confirmatory factor analysis

4.5 Mediation

In the current examination the indirect path is tested through a process macro of (Hayes & Preacher, 2014). The macro is utilized in SPSS. The model chosen for this exploration is model number 4 given by Preacher and Hayes. The bootstrapping utilized was 5000, as this aides in support of test information of Indirect relationships. In the current research there is one mediator so is one mediating hypothesis i.e., H4. The results obtained after analysis indicate the hypothesis is supported which means that there is a significant mediation of green brand loyalty between greenwash and green purchase intention. The table 7 shows the results from mediation analysis. The estimate is $\beta=0.0613$, $P=0.0001$ and standard error of green brand loyalty between green wash and green purchase intention is 0.0557. The mediation in current study is considered as partial mediation and the path of upper and lower-level confidence interval is in same direction with values as -.3380 and -.1174 respectively. The

results suggest that a partial mediation is observed and the results are given as follows and also indicate that green brand loyalty significantly mediates the relationship between greenwash and green purchase intention.

Table 5: Mediation Analysis

Hypothesis	Relationship	Estimates	Standard Error	P	Upper-level C.I.	Lower-level C.I.
H4	GW → GP → GB	0.0613	0.0557	0.0001	-0.3380	-0.1174

4.6 Discussion

Current research indicates that the greenwash of businesses has a clear way of adversely impacting the green purchase intention purpose of their customers. Further, it verifies that greenwash has two indirect ways in which the green purchase intention of your consumers is negatively affected by their green brand loyalty (Aji and Sutikno, 2015). previous literature asserts that green products must be genuine and transparent in respect of the environment, greenwash remains popular with the market. Greenwashing, therefore, represents such an important obstacle to green marketing progress. Also, a previously conducted study did not discuss ways to more enhance the green purchase behavior of consumers in today's greenwash activities (Chen & Chang, 2013).

This paper adds greatly to studies on participation in green consumption. Nyilasy et al. (2014) indicated that, by way of implications of market loyalty to green contact and practices, certain sectors are more or less at risk of environmental loss. They also emphasized factors that could influence the greenwash beliefs of customers should be taken into consideration. Such points are answered successfully in the current study. In Pakistan, which has faced significant environmental and food-related challenges, we research green consumption behavior in the food industry (Nguyen, Lobo and Greenland, 2017). The current study also explores the mediation of green brand loyalty and its indirect effect on the greenwash strategy of firm and green purchase intention of the buyer.

First of all, this research focuses on consumer responses to corporate greenwash leads to a better understanding of how consumers see the environmental practices of food businesses. Nearly the literature acknowledges going green and having green policies will contribute significantly to changing the corporate picture. The information for customers regarding the green purchase and the green buying decisions is very important, and firms are motivated to communicate this information to the client (Leire and Thidell, 2005). The swift development of green practices, however, results in debates about its possible impact on environmental quality and consumers' loyalty to businesses taking advantage of green developments in an opportunistic way.

Furthermore, this research reveals how this process is triggered by means of green brand loyalty as a mediator between greenwash and green purchase intention and the effects of greenwash. Essentially, when analyzing sustainable activities of the food industry, consumers are becoming more important, and their understanding of green products is stronger. The environmental advantages, health, and safety challenges associated with green products are becoming more known to customers.

The results suggest greenwash corporations is related to the consumers' green purchase intention. Moreover, this document notes that the green brand loyalty of companies is a significant mediator in the negative relationship between greenwash and the green goal of their customers. In comparison, the findings suggest that the greenwash of businesses has a negative effect on the green brand loyalty of their customers, which has a favorable influence on the green purchase intentions of their consumers. All suggested theories are endorsed in this study. This study indicates that businesses need to reduce greenwash actions to improve the green purchase intention of their customers. Moreover, if businesses are to increase the green purchase intention of their clients, they must increase the green brand loyalty of their consumers.

The observational results indicate that there is a significantly negative relationship between greenwash and green purchase intention for highly-informed consumers than low-information consumers. This is because that the buyer can differentiate between foods from the firms using green policies and from standard policy food firms. Thus, they may also avoid consuming green products as they perceive greenwashing behavior. Holbrook and Batra demonstrate the purchase intentions of this community (Holbrook and Batra, 1987). In environmental consumption, high information and awareness consumption by users are strongly higher. They would also have extreme expectations with respect to the environmentally sustainable items. By comparison, customers can improve their cognitive image of green products when striking green initiatives take place.

5. CONCLUSION AND RECOMMENDATIONS

In the current study, it is concluded that businesses must decrease their greenwash practice to increase the purchase intention of their consumers. Further, his study explores the mediating impact of green brand loyalty. It is found that the negative association between greenwash and green purchase intention is partially mediated by green brand loyalty. Therefore, in order to meet consumers' needs, businesses must avoid greenwash practices to enhance the green purchase intention of consumers.

In summary, it is suggested that corporations not only adopt strong green efficiency strategies, but also analyze the promotion of these outcomes in depth. In fact, independent and reputable organizations must certify the green initiatives. Moreover, it could be more effective for businesses to

convey green messages widely to users to be more trustworthy in their minds than for rival improvements to their green business policies. In this context, food suppliers must educate retailers towards their production methods and green statements, since these distributors have efficient sources of information between producers and customers. In order to increase consumers' consciousness and awareness of green practices and the ideals of green goods, it is important to establish and enforce collaborative knowledge and education initiatives from policy makers, advertisers and social organizations. These policies would improve the environmental and ethical awareness of customers and minimize their commitment to the green brand loyalty, thus increasing their intentions to purchase green food. Lastly, this research is only conducted on the food industry's greenwashing practices. Future researchers could study the influence of greenwashing practices of other industries such as manufacturing and the energy industry.

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KNOWLEDGE MANAGEMENT AND DECISION SUPPORT SYSTEMS: A BIBLIOMETRIC ANALYSIS

Amorim, Vanessa¹; Lopes, Bruno de Sousa²; Rua, Orlando Lima¹

¹Center for Organisational and Social Studies (CEOS.PP), Porto School of Accounting and Business (ISCAP) | Polytechnic of Porto (P.PORTO), Porto, Portugal

²Department of Economics, Management, Industrial Engineering and Tourism (DEGEIT), University of Aveiro, Aveiro, Portugal

ABSTRACT

The present research aims to conduct a bibliometric analysis to assess knowledge management and decision support systems concepts using the Scopus database and the Bibliometrix R software. The study's articles were found using precise criteria in the Scopus database. The 26 publications were then examined with Bibliometrix R software, which included extensive parameterization for each component under analysis. The results established the topic publications number between 2001-2022, the trends in publications and collaborations between countries, the most relevant journals in the area, and the interconnections between authors, keywords, and publications. This study has as an added value the possibility to evaluate the relevance attributed by academics to ascertain the most important contributions in terms of authors, articles, and journals. One major limitation in this study could be addressed in future research. The study focused on a limited business, management, and accounting field, so it would be pertinent to understand how this topic has evolved, particularly in computer science.

Keywords: bibliometric analysis, decision support systems, knowledge management.

INTRODUCTION

Knowledge is regarded as a valuable resource in an organization because it contributes to developing skills and achieving a competitive advantage (Hasnain, 2015). Thus, knowledge management is a practice that aims to assign the appropriate knowledge to the correct individuals at the right moment to promote the transmission of information and, as a result, improve the overall performance of the business through their actions. Knowledge management also encourages the development, sharing, and archiving of knowledge to make it more accessible and reusable within an organization (Napoleão et al., 2021).

Knowledge management is the sharing and exchange of experiences; obtaining knowledge can come from the individual's innate ability to it, reading books, or the use of technologies that allow getting information, processing, and application of the same is knowledge maturation; organizations must

therefore provide skills, knowledge, and tools to enhance employees' knowledge and acquisition of new knowledge (Ortlieb and Sieben, 2012).

However, knowledge management in organizations cannot be considered in isolation. It is then relevant to introduce the concept of decision support systems to understand their importance in the organizations' operations. Decision support systems enable organizations to be more effective in decision-making processes (Webby and O'Connor, 1994).

Considering the growing importance of the technological area, which is inseparable from decision support systems, it becomes necessary to incorporate the behavioral aspects of individuals who manage specific knowledge and, consequently, adapt their behavior in the decision-making processes (Snyman and Kruger, 2021).

Given the importance and recognition defined in the literature, the concepts of knowledge management and decision support systems are critical for enhancing organizations' competitiveness and development in an increasingly technological environment where decision-making ability is crucial for an effective strategy. In this scenario, it becomes crucial to examine how researchers have contributed to this subject by bibliometric analysis.

After considering the research question, "Which authors, articles, and journals contribute significantly to state of the art in the area of knowledge management and decision support system?" it was established that the objectives are based on defining and understanding the trends of publications and collaborations between countries; the most relevant journals in the area; and the interconnections between authors, keywords, and publications. Thus, this paper will resort to a bibliometric analysis, parameterizing the query used in the Scopus database between 2001 and 2022.

Between 2001 and 2022, the results demonstrate that 86 authors authored 26 publications on knowledge management and decision support systems. Regarding the evolution and classification of scientific production, it is clear that the publication of research on knowledge management and decision support systems shows a stabilizing trend since 2015. The United Kingdom has the most publications (26), followed by the United States of America (23), France (6), Italy (6), Malaysia (4), and Denmark, Greece, Poland, and Ukraine, with three publications. The United States of America and New Zealand, the United Kingdom with Slovenia, Netherlands, Italy and Greece, Malaysia with Germany and Denmark, and France with Denmark, Germany, and Malaysia are the leading countries the authors collaborate with. In terms of publications with the most significant impact on the scientific community, this analysis determined that Decision Support Systems and Journal of the Operational Research Society journals have the highest total number of citations and H-index. Finally, Arnott and Pervan (2005) and Nemati (2002) represent the articles that received the most global citations between 2001 and 2022 (Arnott and Pervan, 2005; Nemati, 2002).

The article is divided into four sections. The first section introduces the concepts of knowledge management and decision support systems and their associations, presents the research question, the objectives, and the main results from the bibliometric analysis. The second section presents a detailed analysis of the methodology used and the criteria applied in the Scopus database. The third section presents the study's results, subdivided into subchapters that specifically address: 1) characterization of the data collected; 2) evolution and characterization of scientific production; 3) bibliometric analysis. Finally, the last section presents the final considerations of this study, further identifying its limitations, implications, and the possibility of future research.

METHODOLOGY

The research was conducted in February 2022, throughout the Scopus database, applying the terms “knowledge management” and “decision support systems” within article titles, abstracts, and keywords, as it is possible to observe through the following query – TITLE-ABS-KEY(“knowledge management” and “decision support systems”) AND (LIMIT-TO (PUBSTAGE,“final”)) AND (LIMIT-TO (OA,“all”)) AND (LIMIT-TO (DOCTYPE,“ar”)) AND (LIMIT-TO (SUBJAREA,“BUSI”)) AND (LIMIT-TO (LANGUAGE,“English”)) AND (LIMIT-TO (SRCTYPE,“j”)). Scopus's inclusion criteria are listed in Table 1.

Items	Criteria
Time horizon:	2001:2022
Database:	Scopus
Keywords:	“knowledge management” and “decision support systems”
Subject Area:	Business, Management, and Accounting
Document Type:	Articles
Type of Publications:	Journals
Publication Stage:	Final
Language:	English
Software:	Bibliometrix R
Documents analyzed:	26

Table 1. *List of items and search criteria.*

RESULTS

Characterization of the Data Collected

Between 2001 and 2022, 86 authors published 26 articles on the diffusion of knowledge management and decision support systems, with 1470 references. The literature is highly collaborative since collaboration among authors appears to be a vital component, and as a result, just one author has written works independently. Table 2 presents a summary of the data collected.

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan:	2001:2022
Articles:	26
Average years from publication:	9.69
Average citations per document:	44.35
Average citations per year per doc:	3.002
References:	1470
DOCUMENT CONTENTS	
Author's Keywords (DE):	108
AUTHORS	
Authors:	86
Authors of single-authored documents:	1
Authors of multi-authored documents:	85

Table 2. *Characteristicss of the data collected.*

Evolution and Characterization of Scientific Production

Regarding the temporal evolution of publications, Figure 1 illustrates that the interest in the topics under analysis over the years does not show a clear trend. Consequently, it can be observed that the year 2019 corresponds to the highest number of published articles. Currently, it can be seen that there is a growth rate of 0%, which translates into the stabilization of the number of publications in the area.

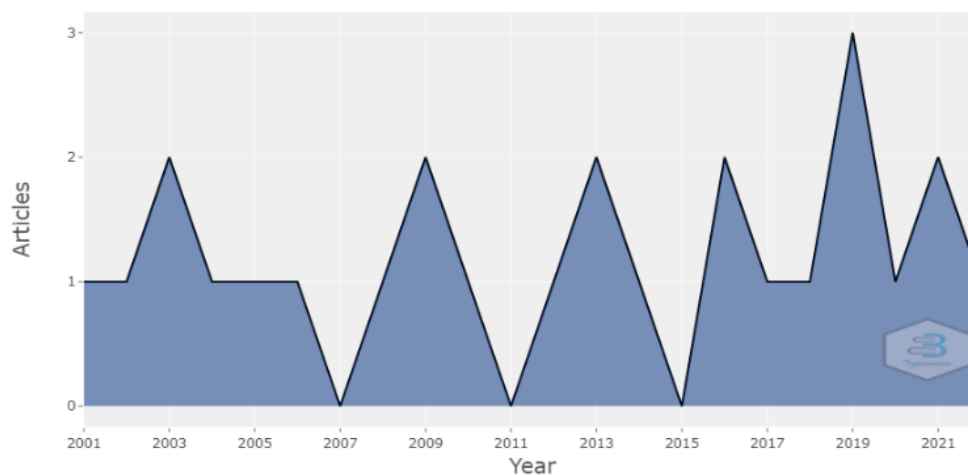


Figure 1. *Evolution of the number of publications on knowledge management and decision support systems by year.*

Additionally, the current analysis attempted to discover which nations publish the most significant publications on the topics under investigation. The relevance of each country in terms of the total number of publications evaluated is depicted in Figure 2, according to the land of the primary author. As it is possible to verify, the countries with the highest scientific production are the United Kingdom with 26 publications, the United States of America (23), France (6), Italy (6), Malaysia (4), and Denmark, Greece, Poland, and Ukraine with three publications.

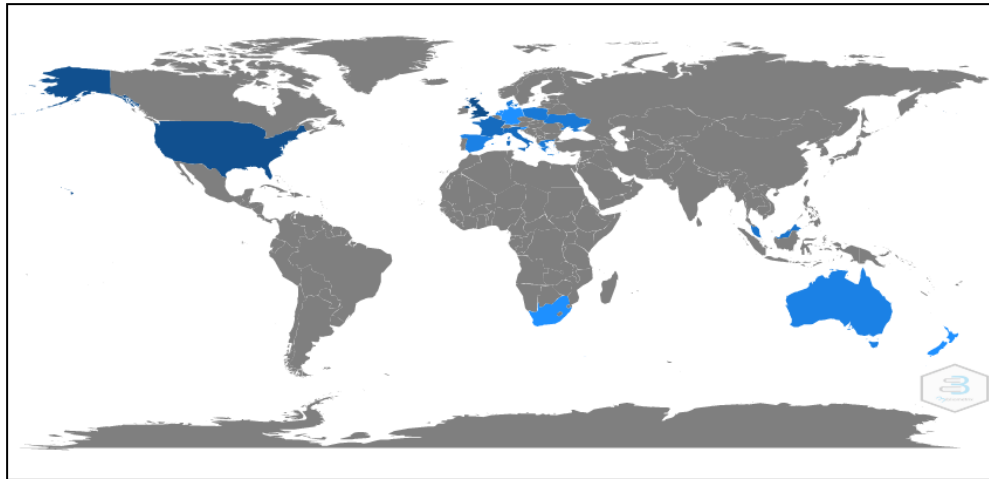


Figure 2. *Publications by country.*

Additionally, a map can be used to determine the origins of the contributing authors. As illustrated in Figure 3, the significant collaborations between authors include the United States of America and New Zealand, the United Kingdom with Slovenia, Netherlands, Italy and Greece, Malaysia with Germany and Denmark, and France with Denmark, Germany, and Malaysia.

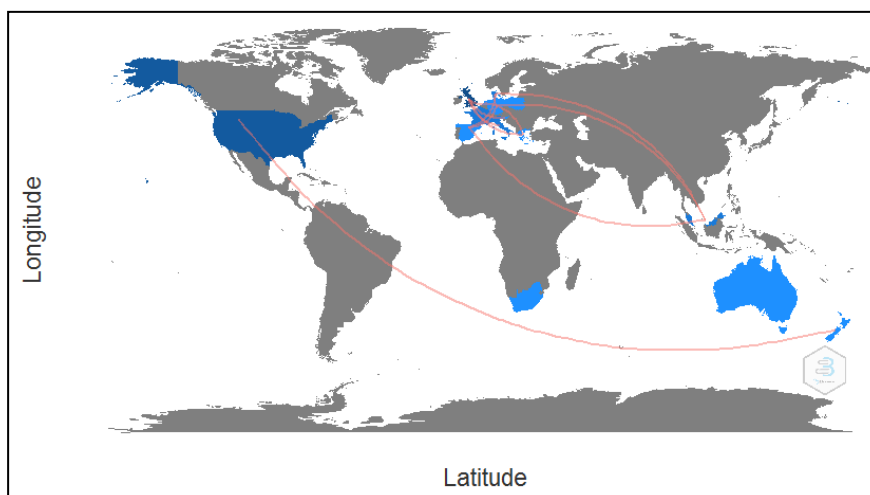


Figure 3. *Country collaboration map.*

The H-index is a bibliometric indicator widely regarded as extremely valuable (Hirsch and Buéla-Casal, 2014). According to Hirsch and Buéla-Casal (2014), the H-index should: 1) “reflect elements of reality that are useful for evaluation and meaningful in a statistical sense and ideally have predictive power”; 2) “not lead to undesirable incentives that are detrimental to the progress of science”; 3) “not be too sensitive to small variations in bibliometric records that could be due to random events”; and, 4) “be not too difficult to obtain from existing databases.”

The association between the most prominent journals on the topic of analysis, the number of publications, their H-index value, and the Total Citations Index is shown in Table 3 below.

Journal	Number of Documents	H-Index	Total Citations
Decision Support Systems	7	7	550
Journal of the Operational Research Society	4	3	60
Journal of Decision Systems	3	3	21
International Journal of Production Research	2	2	4
Journal of Knowledge Management	2	2	38

Table 3. Journals with the most significant number of publications and the respective h-index and total citations.

Following Table 3, it can be seen in figure 4 that all journals show a trend of stability from 2019 onwards, except for the International Journal of Production Research which showed a slight growth since 2020.

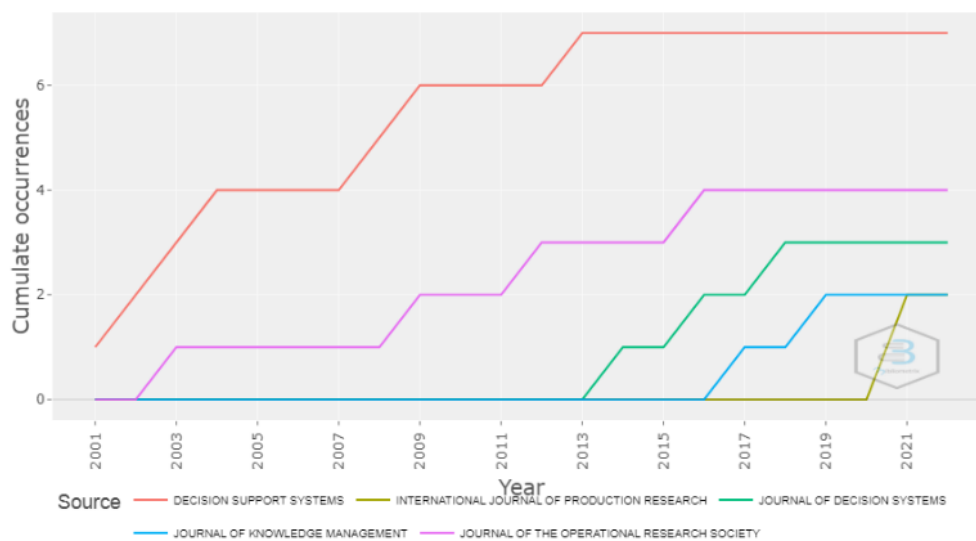


Figure 4. Source growth in terms of cumulate occurrences.

The word growth associated with the keywords - "decision support systems" and "knowledge systems," as shown in Figure 5, in terms of cumulative occurrences since 2002, presented a continuous growth over the years. In this context, it can be seen that the keyword "decision support systems" represents about 20% of the occurrences, which justifies the relevance of this topic, and the keyword "knowledge management" is the second keyword with more events, gathering about 17.5% of them.

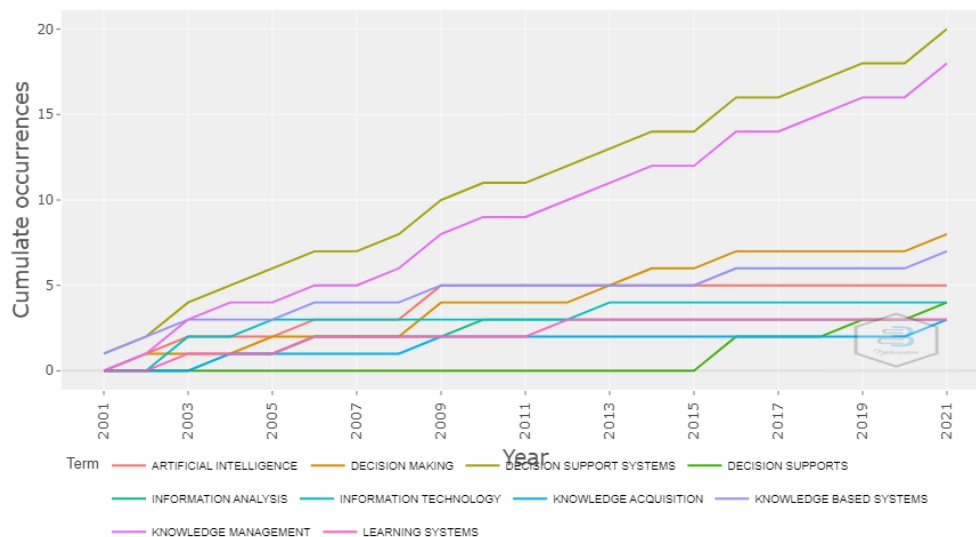


Figure 5. Word growth in terms of cumulative occurrences.

Bibliometric Analysis

The relationship between the authors, the topics investigated, and the journals in which their results are published can all be seen in figure 6's three-field chart. The bigger the colored rectangles are, the more critical a journal, keyword, or author is in the graphical analysis.

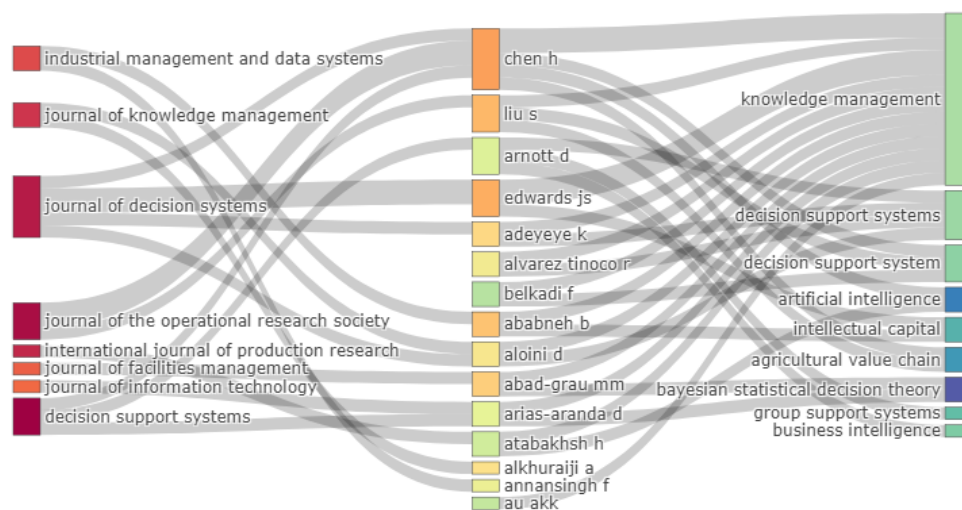


Figure 6. Collaborative network between keywords (right), authors (center), and journals (left).

The bibliometric analysis also establishes a direct relationship between the researchers with the highest number of publications and the overall production of the principal authors over several years in the context of knowledge management and decision support systems research (Figure 7).

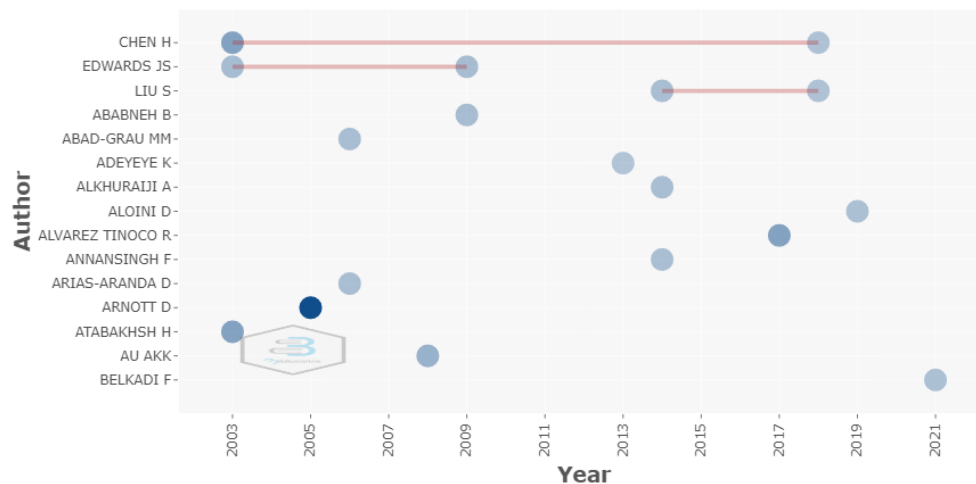


Figure 7. *Top-Authors' production between 2001-2022.*

Regarding direct citations through figure 8, it is possible to analyze the documents, authors, and journals that accumulate the most significant number of global citations. In this regard, it can be seen that Arnott and Pervan (2005) and Nemati (2002) present the articles with the highest numbers of global citations in the period between 2001 and 2022 (Arnott and Pervan, 2005; Nemati, 2002). On the other hand, considering figure 7 as a comparative parameter, it can be noted that there is no direct relationship between the authors who gather the largest scientific productions and the global number of citations.

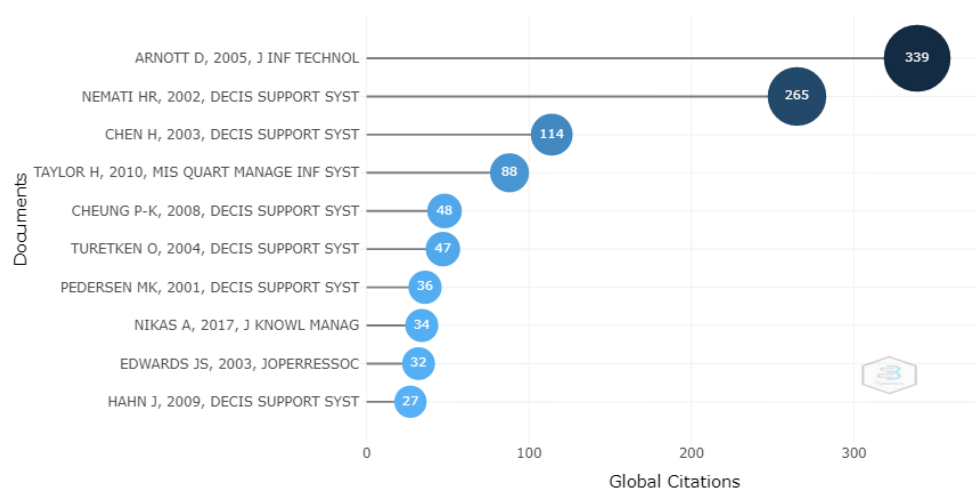


Figure 8. *Most global cited documents between 2001-2022.*

CONCLUSIONS, IMPLICATIONS, LIMITATIONS, AND FUTURE RESEARCH

A bibliometric analysis of scientific production on “knowledge management” and “decision support systems” available in the Scopus database in the domains of business, management, and accounting

was carried out, resulting in the identification of 26 publications in the final stages of publication in these fields between 2001 and 2022.

In recent years, there has been a stabilization in scientific production on the topic addressed, with research peaking in 2019 and demonstrating that is emerging investigation in the areas of decision making and knowledge-based systems.

Regarding the publications with the most significant impact on the scientific community, this analysis determined that Decision Support Systems and Journal of the Operational Research Society journals have the highest total number of citations and H-index. Complementarily, Arnott and Pervan (2005) and Nemati (2002) represent the articles that received the most global citations between 2001 and 2022 (Arnott and Pervan, 2005; Nemati, 2002).

The United Kingdom has the most publications (26), followed by the United States of America (23), France (6), Italy (6), Malaysia (4), and Denmark, Greece, Poland, and Ukraine, with three publications. The results also allow us to establish that greater cooperation between the international academic community should be promoted because, in terms of geographic analysis, there is a smaller number of nations that contribute to the scientific production of this theme, given the existence of an international collaboration that is not significant, except the cooperation between the United States of America and New Zealand, the United Kingdom with Slovenia, Netherlands, Italy and Greece, Malaysia with Germany and Denmark, and France with Denmark, Germany, and Malaysia.

The present bibliometric analysis presents as theoretical implications an evaluation of the scientific production concerning knowledge management and decision support systems, particularly in the area of Business, Management, and Accounting. Since knowledge management, decision support systems, decision making, and knowledge-based systems are interconnected, it is expected that the scientific community approaches all the issues to add value through theoretical and practical implications in organizations. Thus, this article aims to provide the opportunity for a reflection on this important issue, increasing the understanding of the importance of the topic on organizations' improvements, and providing an academic overview of this relevant field of study. It is hoped that this contribution will provide the resources necessary for academics, researchers, technology developers, and managers to search for new investigations and solutions for a more digital era.

This work has a significant limitation that could be addressed in future research. In addition, because the analysis was limited to a specific study field within the business, management, and accounting, it would be very beneficial to understand how this topic has grown through time, particularly in computer science.

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CORPORATE SERVICE BRAND DELIVERY IN A DEVELOPING ECONOMY: HOW FRONTLINE EMPLOYEE POVERTY MODERATES INTERNAL BRAND ENGAGEMENT AND EXTERNAL BRAND TRUST

Andrews, Tim G.; Nimanandh, Khongphu; Chernbumroong, Sainatee

Chiang Mai University Business School, Chiang Mai University, Chiang Mai, Thailand

ABSTRACT

This study examines the influence of poverty - within a context of high socio-economic inequality - on the capacity and willingness of frontline employees to deliver 'on-brand' customer service in a developing Asian economy. Specifically, we present the combined effects of low income, low social status and low education on internal brand engagement and subsequent customer brand trust. Based on an exploratory, multi-case investigation in Thailand, we collected data collected from 73 interviews with 45 participants comprising corporate executives, divisional managers, frontline employees and international clients. Our findings explain how and why poverty adversely affects the brand understanding, communication and commitment of frontline security operatives within a culturally hierarchical, economically unequal market context. We then show how, ultimately, this damages customer brand trust. Implications for internal brand management and consumer brand trust theory are then pursued, along with pointers for practice and future research.

Keywords: Internal brand management, Brand trust, Poverty, Frontline employees, B2B service brands, Developing economy, Thailand

INTRODUCTION AND BACKGROUND

This study examines the influence of poverty on the capacity and willingness of frontline service operates (FSOs) to deliver 'on-brand' customer service in a developing Asian economy. More precisely, we investigate how low-income, poor education and low social status shape the capacity and willingness of FSOs to deliver 'on-brand' MNC security services and how this, in turn, affects brand trust among international corporate clients.

According to a growing body of empirical research, employees at the frontline can often fail to represent the brand in the manner preferred and/or required (e.g., Burmann *et al.*, 2017; Schepers and Nijssen, 2018; Wirtz and Jerger, 2016). Addressing this challenge, brand marketing scholars have given increasing attention to internal brand management to ensure employee behaviour complies with the values and attributes embodied in the brand promise (Du Preez and Bendixen, 2014; Harris, 2007;

King and Grace, 2012; Piehler *et al.*, 2016; Zhao *et al.*, 2018). However, one neglected (albeit acknowledged) influence is the pervasive *poverty* suffusing the lives of such workers at the base of the organizational pyramid, particularly relevant in the emerging markets of Asia where Western MNCs continue to pursue growth in the face of mature market stagnation (e.g., Andrews and Chew, 2017).

In a series of meta-analytic reviews, organizational scholars have begun examined the mechanisms through which poverty's consequences affect the lives and behaviors of the organizational working poor (e.g. Dabla-Norris *et al.*, 2015). In Bapuji's (2015) preliminary framework, poverty imposes burdens on the organization such as healthcare costs and lost productivity through absenteeism, tardiness, hospitalization and lack of physical and psychological wellbeing, as well as higher costs spent on high turnover or employee churn rates (Andrews and Htun, 2018). Poor education among low-level staff can also hinder performance through low cognitive skills (e.g., concentration levels, memory and language) as well as non-cognitive skills such as discipline, and self-confidence (Leana *et al.*, 2012).

Broadening the scope of 'deprivation' to include health, education and so forth, 'socio-economic inequality' depicts the overall unevenness in the distribution of resources among groups in a given population – 'resources' here conceived in terms of both endowment and access (Bapuji *et al.*, 2020). Although poverty and inequality are distinct and have distinct effects (Bapuji *et al.*, 2020), where poverty is experienced in a context of high economic inequality, the adverse effects within the organization may be magnified. Large disparities in income, wealth and consumption can lead to stress, anxiety and resentment in individuals interacting with their more advantaged (or disadvantaged) colleagues (Wilkinson and Pickett 2009). Mutual trust, along with broader feelings of organizational identification, may also be lacking - along with the cooperative interaction needed for accomplishing tasks (Bapuji 2015; Leana *et al.*, 2012). In service organizations, the marginalization experienced by the working poor due to economic inequality can also lead to problems in cooperation and communication with external stakeholders, instanced by bank clients, hotel guests, hospital visitors and the public at large (Andrews and Chew, 2017).

In this study, to explore the impact of poverty on the branded service delivery of organizational frontline employees, we situated our study in Thailand where – as across much of developing Southeast Asia - economic progress has been slow to translate into poverty reduction. Indeed, at the higher international poverty cut-off of \$3.20 per day, as much as a quarter of the region's population (excluding Singapore) live in poverty (Isarabhakdi, 2019). In relative terms, the effects of such poverty are typically exacerbated by high levels of socio-economic inequality (Phongpaichit and Baker 2016) which, being grounded in cultural norms indicative of 'high power distance' (Hofstede, 2001), wield a prodigious influence on the whole course of society (Hewison, 2015). Against this backdrop,

significant disparities in incomes, education, social inequality and health are endemic among employees in commercial and public organizations, especially towards the lower end of the organizational pyramid (Andrews and Htun, 2018).

Within the marketing literature, despite the frequency of market failure in emerging markets, existing 'base of the pyramid' marketing research has focused almost exclusively on *consumers*. There remains a marked paucity of micro-level studies which focus on organizational *employees* (e.g., Andrews and Htun, 2018). A small but growing stream of organizational research suggests that poverty within the context of high socio-economic inequality can negatively affect service delivery through its inducement of worker absence, fatigue and poor workplace communication (e.g. Andrews and Htun, 2018; Bapuji and Neville, 2015). However, its effects on their brand engagement and - in particular - the derailing of managers' ability to control consistent brand promise delivery remains ill-understood. In addressing this current lacuna, we focus on the lived experiences of frontline security operatives to explore how poverty affects their brand engagement and, subsequently, customer brand trust. Specifically, we explore *how*, *why* and with *what effect* key manifestations of poverty among FSOs affects their capacity and willingness to deliver on-brand delivery and how, in turn, this affects customer brand trust.

In understanding this interrelationship, our findings offer a novel avenue of investigation into how and why service brand delivery often fails to meet organizational brand objectives in developing Asian contexts, as well as how subsidiary managers can respond.

METHODS

Given the paucity of existing research we adopted an exploratory, interpretive approach using three Western MNC security services brands – pseudo-named *Alpha*, *Betam* and *Clazon* – with similar Thai-based subsidiary issues. Using semi-structured interviews as our main source of data we sought to uncover *in situ* participant experiences concerning poverty's consequences – initially with participating executives, but then also with their Thai-based international client representatives and the FSOs themselves.

In total we collected data 73 interviews with 45 participants comprising corporate executives, divisional managers, frontline employees and international clients. Using multiple rounds of open and axial coding we identified the combined effects of poverty on FSO brand delivery in terms of three major channels of influence: *brand understanding*, *brand communication* and *brand commitment*. Following further discussions with a sub-sample of executives we then merged these into the overarching theme of "FSO brand engagement".

In analyzing the client data we identified the issues of dependability and consistency early on as being key brand-delivery concerns, issues we compared with the existing literature on service satisfaction/quality along with the various models of consumer trust (e.g. Delgado-Ballester *et al.*, 2003). This led to our settling on an adapted version of the Hegner typology (Hegner & Jevons, 2016 – see also Burmann *et al.*, 2017), one that provided the best fit with our emerging data in encompassing the negative impressions of competence/ability, motivation, integrity and appearance. We then deepened the dimensions of this preliminary frame to refine our understanding of trust, iterating between and across our client cohorts until no new data was proffered.

FINDINGS

To begin with, we found that the level of brand knowledge and understanding held among the FSOs was sorely compromised by a combination of educational, linguistic and cognitive deficiencies. These same issues were also found to strongly affect their capability and willingness to communicate both with international clients, their urban Thai compatriots, and the public at large. With their limited mastery of the national language, the speech patterns of the guards were typically laden with inflexions and idioms from their native dialect along with a heavy accent. Such limitations were reinforced by their sense of social inferiority – as expressed and observed - when engaging with anyone outside of their group. According to our respondent managers (both locals and corporate expatriates), this lack of confidence could also make them seem reserved and taciturn, which was at odds with the desired brand personality of the MNEs concerned..

Secondly, brand communication among the FSOs was adversely affected by their visual appearance, in turn attributed by all stakeholders partly to their low means, lack of medical access and poor diet. This included missing, damaged and/or blackened teeth, missing digits, disfigurements and scars, cheap tattoos and so forth. And although typically viewed as normal for a ‘low-status person’ in the Thai context (Andrews and Htun, 2018: 349), it was seen as unpleasant, in appropriate and even ‘repellent’ by international clients and visiting foreign public

The third significant issue identified as regards poor living standards to emerge from our data was the perceived lack of FSO commitment to the promises, ethos and values of the brand. The most frequently-cited symptoms were absences/“no shows” and performance behaviour often described as ‘listless’ and ‘vacant’. The former – typically attributed to (unexpected) rural family issues/commitments, health problems and/or fleeing debt collectors - could compromise markedly the effectiveness of the security presence both as deterrent and response. As one MNE expatriate, “...it’s simply not what we promised to our customers”, a statement then emphatically reinforced by the clients themselves. The visible effect of FSO listlessness – mostly borne of their fatigue - also stemmed

from their need to do additional work (mostly taxi driving) to support their families. As well as the obvious impact on their surveillance/monitoring effectiveness, the chronic tiredness from 'moonlighting' led to health-related consequences and hence further absences.

Among the clients we found a high degree of overlap with the concerns expressed above – specifically regarding the manifestations of poverty, its perceived effects on FSO service delivery as well as their subsequent trust in the brand. To begin with, client trust in the *competence* of the guards to deliver the promised brand experience was directly affected by the latter's deficient brand understanding, poor brand communication and weak brand commitment. Practically, this encompassed their failure to comprehend requests, their "problematic" style of communicating and their overall air of disengagement. Trust in the *predictability* of the service was also affected negatively by the low status, poverty and low educational levels of the FSOs.

Affective trust was also shaped markedly by the low means, limited education and low status situations of the FSOs. In particular, client perceptions of integrity was damaged by the deficient brand understanding and commitment levels of the FSOs, affecting in turn perceptions of their fair-play and openness. Concerning the latter, notions of "fair play" in the service felt to be compromised by the guards' absence and fatigue along with persistent rumours of guards doing additional work ('moonlighting') – often with (suspected) supervisory blessing. Finally, the *goodwill* of the security guards was felt to be affected by their poor brand communication and weak brand commitment. One issue, repeatedly remarked on, was their deficient language ability and how it could come over as their lack of interest in customer problems or queries. Stated formally:

P1: Poverty – comprising low levels of income, education and social status - among the organizational working poor in Thailand can adversely affect their ability and willingness to understand, communicate and commit to the corporate service brand promise, values and attributes.

P2: Poverty – comprising low levels of income, education and social status - among the organizational working poor in Thailand can adversely affect international client trust in the branded service through negativizing their perceptions of frontline employee competence, predictability, goodwill and integrity.

Together, our findings suggest a number of implications for current and future international brand marketing theory.

IMPLICATIONS AND CONCLUSION

Implications for theory

Firstly, we contribute to the Internal Brand Management (IBM) literature by extending and refining knowledge of a key moderators (e.g. King and Grace, 2012; Piehler *et al.*, 2018) with particular

relevance for the corporate service brands in Thailand and – potentially – across developing Asia. Prior research, in acknowledging that employees are not homogeneous, argues that the impact of IBM may vary across employee groups due to the influence of contextual and individual factors. Building on this perspective, subsequent studies have identified a range of employee-level moderators – including employee age, gender, length of service, skills and abilities (e.g. Baker et al., 2014; King and Grace, 2012; Piehler et al., 2016), as well as organizational structure, climate and supervisory support (Burmann et al., 2017; Davies *et al.*, 2018). However, despite increasing calls for more research (e.g. Piehler *et al.*, 2018), there has been little work exploring how such moderators affect employee brand engagement.

In this study we highlight the role and impact low means and education as an important but under-researched moderator in a key developing Asian context characterized by elevated economic inequality and hierarchical ('high power distance') cultural norms. Specifically, we uncover how, why and with what effect poverty affected markedly a number of key IBM activities and, in particular, brand understanding. Although held to be the foundation for affective and behavioural IBM outcomes, brand understanding remains sorely under-studied (Burmann *et al.*, 2017). Indeed, as Piehler et al (2016) report, there is virtually no existing research on the antecedents of brand understanding, despite the attention being paid to other salient aspects of IBM such as brand commitment and brand identification (e.g. King and Grace, 2012).

Among our frontline security guards their background of poverty and deprivation meant they were forced to work from age 13-14, thus having limited formal education. As a consequence, much of the distributed brand descriptors such as pamphlets, newsletters, the intranet and so forth (Baker *et al.*, 2014; de Chernatony et al., 2006) comprised documents they could neither make sense of nor relate to. Consequently, their brand understanding was typically limited, haphazard and erroneous, filtered through the oral interpretations of their site foremen. In addition, when set alongside their rural origins, low social status, linguistic challenges and lack of confidence, their sense of marginalization and disconnection from the wider organization and its brand was substantial – adversely shaping their ability and willingness to enact on-brand service (e.g. Kimpakorn and Tocquer, 2009).

As prior research has argued, without a shared understanding of the brand, subsequent identification then becomes that much more difficult (Piehler *et al.*, 2016). Our study, in extending prior work, shows how and why *poverty* affects this this process, answering the calls for more empirical research on the moderators of IBM (King and Grace, 2012). It also moves us towards a more comprehensive model of IBM with applicability in non-Western, developing market environments (Chiang, Chan and Han, 2012; Piehler *et al.*, 2018). Finally, and by implication, we also shed new insight into the reasons for IBM failure (Du Preez and Bendixen, 2015).

Our second contribution concerns theories of customer brand trust. Whereas most research continues to focus on the *effects* of brand trust (e.g. Chauduri and Holbrook, 2001), we extend and refine extant work on understanding the various *types* of trust and – in particular - how they interact. As explained in our data analysis section, of the various extant models of trust to date, we found the influential cognitive-affective typology (Burmann et al., 2017; Hegner and Jevons, 2016) to provide the best fit for our data. Through our in-depth exploration of the client perceptions of the security guards' service (vis a vis the experience promised), we were able to refine and extend this typology. More precisely, we uncover how the various cognitive and affective dimensions of trust interrelate through being damaged or questioned, such that damage to one dimension served to negativize trust in the other. By way of example, the clients' lack of affective trust in the goodwill of the FSOs towards their issues and problems served in turn to lower the cognitive trust they held in their *competence* to perform to the level promised. Conversely, we found how the lack of cognitive trust (competence and predictability) among clients then adversely affected their affective trust in FSO goodwill.

Given the crucial role of customer trust in building sustainable brand value, these findings suggest we need to pay more attention to understanding the constituent nature of consumer trust, not only as a static typology but as a set of dynamically interconnected facets. As Burmann et al (2017) argue, once trust is lost it then becomes very hard to regain. Providing greater clarity into how the various components of customer trust interrelate towards a more comprehensive framing of consumer trust as a kind of 'Rubik's cube' of co-dependent facets. In order to protect and nurture the development of the brand our findings here suggest the need for managers to attend more assiduously to trust in terms of 'touchpoints' ensuring each facet is being monitored and nurtured.

Finally, in highlighting the lived experiences of frontline security operatives, we offer an empirical contribution to the international services marketing literature. Whereas extant research is focused on consumers and managers in developed economies where the service sector dominates (e.g. King and Grace, 2012), in this study we have highlighted the experiences of staff at the *base* of the organizational hierarchy. With their low education, low confidence, language issues and poor health, these service frontliners have been "below the radar" in international marketing research (e.g., Andrews and Htun, 2018; London, 2016). As our findings highlight, however, when marketing the MNE service brand within the emerging markets of Asia their importance should not be overlooked.

Implications for practice

Despite being credited with excellent, products, pricing and communications, MNE service brands continue to experience difficulties in emerging markets, attributed in large part to sub-optimal frontline delivery (e.g. Kumar et al., 2013). Against this backdrop, understanding the influence of poverty - in its key manifestations - on employee behavior suggests a number of implications for

practice, centred on IBM customization and a corporate CSR employer-brand approach to both developing and assisting those frontline workers currently impoverished and marginalized.

Concerning IBM adaptation, where brand material and guidelines are of only limited frontline applicability, managers should tailor programs to be more congruent with local communication realities. Our findings suggest the need to emphasize more informal mechanisms to ameliorate brand understanding in a relevant and behaviourally-convertible manner (Burmam et al., 2017). In particular, we propose that, oral-visual transmission, stories, mentoring and role modelling would constitute a more appropriate means to connect how the brand promise relates to the FSOs in their daily work. This in turn should be supported by pro-brand performance reward structures for the guards and their foremen (given the latter's key role in the onward transmission of brand values to their teams).

Backed by targeted salary and welfare investment, such measures would undoubtedly serve to improve the branded performance of existing frontline personnel. However, sustaining this implies a more fundamental shift in approach towards a top-down CSR employer branding process cascaded down through the organization. Addressing the circumstances of the frontline working poor should be values-based, both emanating and reflecting core the organization's core identity, purpose and as embedded in its everyday practices (Carlini et al., 2019; Piehler et al., 2016).

This is especially salient for Western MNEs seeking to legitimize their presence in the world's emerging markets. Here, the mitigation of poverty has become a key marker of corporate brand reputation (e.g. Chatterjee, 2016). However, among our case MNEs, while all voiced their commitment to CSR employer branding, our findings showed that their ethical policies were not being sufficiently enacted on the ground – an inconsistency repeatedly held to cause long-term reputational harm (Hawn and Iannu, 2016). Given that within the FM industry the frontline working poor are particularly pervasive and visible, this accorded with our own impressions formed during discussions held throughout the study. With their ignorance of and – in effect – 'exclusion' from knowing about the firm's stated morals, the guards' impressions concerning their employer stemmed exclusively from word-of-mouth opinions gained within their interpersonal networks. Yet given that the organization has only very limited control over such 'grapevine' sourcing, managers seek to manage assiduously the guards' internal experience. In particular, there is the need to align IBM both with the local societal context (Scheidler et al., 2018), employee circumstances and the corporation's core employer brand values. This heightened attention to the development and wellbeing of the organization's working poor in contexts such as Thailand should help with the retaining of on-brand local personnel on the one hand, and the attracting of others to the firm through learning of its socially-responsible practices, on the other (Davies et al., 2018).

Conclusion

In this study we have shown how key manifestations of poverty can hold significant adverse influence on the relevance and efficacy of IBM in a developing Asian market. This is important because, as Sheth (2011) notes, maintaining consistency in brand delivery necessitates understanding and controlling the factors which can damage it. Without such understanding, MNEs risk pursuing sub-optimal brand delivery performance in developing Asia, encompassing some of the world's foremost marketing growth arenas. It is our hope that this exploratory, interdisciplinary investigation provides an impetus and a steer for future research to expand and develop this under-researched but managerially significant area of international brand stewardship.

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THE EFFECT OF COVID-19 PANDEMIC ON SUSTAINABLE ENTREPRENEURSHIP INITIATIVES IN THE RESTAURANT SECTOR

Araújo, Inês¹; Gomes, Luiz¹; Moreira, Filipa¹; Valente, Duarte¹; Rua, Orlando Lima^{1,2}

¹Porto School of Accounting and Business, Polytechnic of Porto, P.PORTO/ISCAP, Porto, Portugal

²Center for Organisational and Social Studies (CEOS.PP), Polytechnic of Porto, Porto, Portugal

ABSTRACT

This study aims to analyze the development of sustainable packaging, which would be used in restaurants, namely in the takeaway service. This idea arises with the Covid-19 pandemic since there has been an increase in the amount of single-use residues harmful to the environment, derived from measures to prevent virus spread. The guiding pillars of this research are based on Sustainable Entrepreneurship and Social Innovation, themes with increasing social, economic and environmental importance. We propose reusable packaging based on bamboo to solve the identified problem, given the low costs and specificities. This packaging would be able to address the environmental issues analyzed throughout this study and represent a corporate advantage in the restaurant sector.

Keywords: Sustainable entrepreneurship, innovation, restaurant sector, takeaway, COVID-19.

INTRODUCTION

The pandemic in the early 2020s led to social isolation and a progressive increase in the amount of packaging purchased from takeaway services and discarded after use, causing more waste (Sousa, 2021).

To combat this social and environmental problem, the concepts of Sustainable Entrepreneurship were fundamental, which according to Gunnila (2014), means acting so that companies are socially, economically and environmentally sustainable at the same time and Social Innovation, which according to Farfus and Rocha (2007) implies a premise for the construction of a new model to meet social demands in a post-modern era, which allowed us to develop and deepen our knowledge and which led us to a solution that could address the problem encountered: a reusable packaging made of sustainable materials, more beneficial to the environment and more beneficial also to the company/restaurant that adopts the new packaging, since, each customer would benefit from a discount, thus stimulating the purchase of the service, making them loyal.

More research, studies and tests are thus essential to understand the impact of the various materials used in packaging and which are the most sustainable and beneficial to the environment and the

consumer (Cheung, 2021). To this end, the research method was used through articles, theses and books by various authors, which helped better understand the concepts mentioned above.

THEORETICAL FRAMEWORK

From business entrepreneurship to sustainable entrepreneurship

Entrepreneurship is neither a science nor an art; it is a practice (Drucker, 2006). The author also mentions that knowledge is essential for entrepreneurship, which “is a means to an end”. Onuoha (2007) defines entrepreneurship as starting a new organization or revitalizing mature organizations, particularly new businesses, usually in response to opportunities identified in an external environment. From an economic perspective, entrepreneurship is fundamental to sustainable economic development, bringing many benefits and contributions, especially when successful, from resolving problems related to employment, crime, etc. With this, an increase in society’s quality of life. It should be noted that entrepreneurship contributes positively to the gross domestic product of countries and that it causes essential structural changes at the business level.

Several concepts have emerged with the sustainability paradigm, such as eco-entrepreneurship, green entrepreneurship, social entrepreneurship, and environmental entrepreneurship (Terán-Yépez et al., 2019). Each one of them has different characteristics from the other, but sustainable entrepreneurship manages to relate these concepts as the core business focuses on social, environmental, and economic performance

In the mid-1990s, research for the concept of sustainable entrepreneurship began to emerge and take shape. Still, it was only in 2009 that this topic began to gain emphasis, and, as of 2012, the number of articles on the subject has grown substantially (Terán-Yépez et al., 2019). The concern with sustainability has increased due to the uncertainty and the global crisis that the world is facing. The impact of human beings’ actions in the world has harmed the welfare of societies and nations. For this reason, proper emphasis must be given to this theme.

As Ganilho (2015) states, it is necessary to consider that the world needs a new economic paradigm. This is where the concept of sustainable entrepreneurship and its importance comes in. Gunilla (2014) states that sustainable entrepreneurship is a prerequisite for a successful modern business.

Sustainable entrepreneurship is related to discovering and exploiting economic activities through the generation of market ‘disequilibria’ that initiate industry transformation toward a more environmentally and socially sustainable state (Hockerts and Wüstenhagen, 2010).

Spence et al. (2011) see sustainable entrepreneurship as innovative, market-oriented and a way to create value. Still, for a company to achieve this type of entrepreneurship, its managers must have principles and beliefs related to sustainability. They must be altruistic to put the needs of society first. According to Reiche (2014), sustainable entrepreneurship is responsible for entrepreneurship as it “takes into account environmental, social and economic consequences in core business along the entire value chain in entrepreneurial thinking and decision making”.

Kummitha and Kummitha (2020) concluded that sustainable entrepreneurship is also the transformation and management of existing businesses to become sustainable, which can happen in small and medium-sized and large enterprises. Finally, “sustainable entrepreneurship represents the link between the business creation process and holistic well-being (social, economic, health or environmental)” (Crecente et al., 2021).

This type of entrepreneurship can bring several advantages, not only for society but also for the company itself. Currently, sustainability has significant importance in people’s lives, people end up preferring sustainable products and, consequently, companies that practice this type of business. Thus, whenever a company bets on creating a new business or the opening/transformation of a sector/product, it should preference sustainable entrepreneurship. Moreover, Sarango-Lalangui et al. (2018) state that “sustainable entrepreneurship can generate employment, improve products and processes, (...) and change people’s lives”.

The practice of sustainable entrepreneurship always has future generations in mind, according to Terán-Yépez et al. (2019), as “entrepreneurs who operate sustainably are perceived as being able to meet the needs of current generations without causing harm future generations”.

From classic innovation to social innovation

In a broad way, innovation can be understood as the search for new solutions, aiming to improve products and processes or simply seeking to explore new markets (Vianna et al., 2013). Innovation can also be conceptualized as a modification or creation of ideas to improve processes, operations, and products or services through the effective application of these ideas. The origin of innovation is possible through strategic alliances, research and development (R&D) or acquisition of new technologies (Cunha and Santos, 2005). Barbieri (2003) lists five points that are directly related to innovation: (1) Creation of a new product, (2) Opening a new market, (3) Implementation of a production method, (4) Acquisition of a new source of raw material, and (5) Establishment of a new organization for the business.

Audretsch et al. (2021) corroborate that the existing literature robustly explores the characteristics and needs of innovation in the business environment, particularly profit-oriented innovation. However, it

recognizes that “profit-oriented innovation”, while creating crucial economic wealth for technological and social progress, may not be able to solve the significant global challenges of this century. More broadly, social innovation is characterized as a premise for building a new model of meeting social demands in a post-modern Era (Farfus and Rocha, 2007).

Eichler and Schwarz (2019) neatly list five points that help identify them, namely: (a) A social need that must be addressed, (b) An innovative elements such as a new approach, (c) Implementation of a product or service, (d) Improvement of a given situation; and (e) The development of new relationship and collaborations. However, even though there are differences in the characteristics of the objectives of profit-oriented and social innovations, economic viability is equally important in both. Correia et al. (2015, p.16) argues that “social innovations seek to satisfy basic needs through incentives for sustainable and economically viable production and consumption of goods and services. Social entrepreneurship initiatives can be a source of savings based on local production systems that benefit individuals and groups and the community, society, and the environment. Socio-political capacity is stimulated through the participation of communities in the decision-making process. This includes the process of capacity building and learning, involving local communities and civil society actors, allowing them the opportunity to identify, create and implement mechanisms to meet their socio-environmental, economic and cultural needs”.

In addition to seeking a better level of quality of life and social well-being in the regions where it is developed (Caron, 2007), social innovations promote the inclusion and involvement of citizens in the change process (Arniani et al., 2014).

When it comes to the implementation of social innovations, three approaches are used to stimulate their development: external actors facilitating the development of the social innovation (top-down approach); local actors developing the social innovation (bottom-up approach); and external actors promoting a local institutional capacity to mobilize their internal resources and develop social innovations (top-down initiatives facilitating bottom-up activity); however, the bottom-up perspective is more efficient when implemented at the community level, by living daily with the social problem (Butkeviciene, 2009).

The formation of collaborative networks that generate bottom-up solutions focused on sustainable development that meets a given need through the values and interests of the local community is one of the goals of social innovations (Seyfang et al., 2007). Correlating them with the sustainable consumption approach points to citizens developing more sustainable lifestyles and generating changes in their consumption behaviors and values to reduce environmental impacts and increase the community’s social well-being in which they are inserted (Khan, 2008).

COVID-19: Effects and externalities on restaurants' economic activity

SARS-CoV-2, or COVID-19, named by the World Health Organization (WHO), emerged in late 2019 in Wuhan, China (Sánchez et al., 2021). It spread to different countries and continents (Abbas et al., 2021). Those who are infected with COVID-19 can either have no symptoms or develop more severe symptoms, such as pneumonia, for example. The virus spreads quickly through indirect or direct contact, such as saliva particles, sneezing, coughing, and other forms of contamination (SNS24, 2022).

On January 30, 2020, after several people were already infected and consequently after several deaths, the WHO declared an International Public Health Emergency. In March of the same year, the WHO announced that the world faced an international pandemic, given worldwide infections (Entidade Reguladora de Saúde, 2021). Thus, the World Health Organization and the various countries and respective governments sought to combat the spread of the virus through containment measures and greater awareness (Abbas et al., 2021) of the population about the risks of COVID-19. In the case of Portugal, the State of Emergency was decreed on March 18, 2020 (Sousa, 2021).

Due to the pandemic, all countries were negatively affected economically, socially, and psychologically and impacted public health. To stop the contagion and protect citizens health, many countries were forced to adopt confinement and social distancing, reducing activities outside the home and leading to the closure of educational institutions, restaurants, stores, and hotels, among other establishments. These closures and restrictions eventually led to increased unemployment, lower wages, and a slowdown in the economy and international trade. In this sense, poverty levels also rose, as did social inequalities (Bizarro et al., 2021). Many closed borders, limited travel and mandatory quarantine (Santos, 2020). Due to the state of the economy, governments had to support the affected sectors, through tax incentives, for example.

In addition to the economic outlook, the pandemic also harmed the Portuguese people's well-being and quality of life, either because they contracted the virus or because of the fear of it happening; both situations led to high levels of stress, fear, isolation, inactivity, among others (Santos et al., 2021).

As mentioned earlier, businesses were also affected by the emergence of the pandemic, namely small and medium-sized enterprises (SMEs), which are more vulnerable compared to larger ones or to companies that sell essential goods such as food. SMEs sales decreased, given the decrease in demand, due to which layoffs and closures skyrocketed (Santos, 2020).

The restaurant sector, in particular, was greatly affected by COVID-19; the number of customers was decreasing as the restrictions and insecurity increased, and restaurants began to receive fewer customers from March 2020. There was also a decrease in tourists, affecting the hotel and restaurant sector economy. Many restaurants closed, others continued to work with limitations, many employees

were on lay-off or without a job (Dube, 2021). In the case of Portugal, for a limited period, only delivery and takeaway services were allowed; “As restrictions have been imposed, consumers have increasingly chosen to reduce their presence in public spaces and order from restaurants to their homes” (Sousa, 2021).

The social distance changed the Portuguese population’s day-to-day life. Customers’ behaviors changed, leading to new consumption habits, since people started to travel less out of home and worry more about social distance, decreasing the number of meals made in restaurants and increasing the use of takeaway, drive-through or online ordering (Sousa, 2021). The restaurant industry has had to be resilient, getting food to consumers more safely and conveniently to maintain business (Winarsih et al., 2021). The habits of ordering food or picking up takeaway, which grew during the pandemic, will likely continue due to its convenience. Therefore, restaurants should invest in deliveries by investing in packaging, which should be innovative, add value, and be sustainable.

Restaurants should continue to adapt to consumers, trying to meet their needs and get their loyalty (Sousa, 2021); they should remain competitive, through new opportunities to grow the business. They should take the chance to recover old customers and find new ones by offering innovative products or services (Madeira et al., 2020).

Due to the increase in takeaway services, there has consequently been an increase in packaging, i.e., a more significant amount of waste produced and discarded after the consumption of meals, increasing the ecological footprint (Bizarro et al., 2021). Restaurants must try to be more sustainable, for example, by producing less waste and reducing the use of plastics.

Restaurants should thus seek to use products that are not immediately discarded and serve their purpose in line with environmental well-being so that consumption is more sustainable and positive for the environment (Pego, 2020). By being more sustainable, products and services are more competitive, having a longer life cycle and more added value, which is positive for the company and the environment. It is also observable a growing concern for the environment; in the restaurant sector, it is observable a greater demand for reusable products, such as, for example, bamboo or stainless steel straws.

In food delivery services or takeaway, plastic, aluminium, and paper are heavily used materials in food packaging. There was more pressure on the recycling process with more waste, and more waste was left unrecycled (Teles, 2020). It is essential to decrease and combat the use of plastic and materials that are harmful to the planet, by using products made from biodegradable materials to have more sustainability and to be able to meet the needs of the present without compromising the needs and well-being of the future generations (Hakovirta, 2020).

Today, despite the reopening of the restaurants and the lifting of some measures, they cannot immediately recover all the profit and customers lost during the pandemic, and it is essential to resort to other, more innovative ways of keeping and attracting new customers.

METHODOLOGY

This study focuses on investigating a social problem to create a solution to mitigate it. In the first phase, research was conducted using the terms “entrepreneurship”, “sustainability” and “innovation” considering the most current topics. Drucker (2006) had provide the necessary inputs for the definition of concepts about entrepreneurship essential for the completion of the paper. Terán-Yépez et al. (2019) had a prominent role in our research on sustainability. Social innovation was the target of study by Eichler and Schwarz (2019), who guided and facilitated us in identifying the concept. In this follow-up, a gap was identified regarding an existing problem: the increase in waste caused by packaging used by the restaurant sector in the takeaway service due to the restrictions caused by Covid-19 pandemic. This theme was the basis of the study of authors such as Sousa (2021), Santos (2021) and Bizarro (2021), among others, which provided relevant information on how Covid-19 impacted the economy, businesses, consumption habits and the restaurant sector.

Having all the conditions met for the study to be carried out, the third phase followed. The research was developed through articles, theses, news and books by several authors to deepen the knowledge on the subject and search for sustainable and entrepreneurial solutions. The study of the choice of packaging that would serve the problem addressed was mainly due to the efforts of Cheung (2021), which enhanced the decision making on the material that could be selected.

RESULTS: CREATION OF REUSABLE PACKAGING

The problem with takeaway is its cost versus its convenience. The amount of waste produced in takeaway packaging is enormous. Plastics, such as bottles and cutlery, paper, in bags, polystyrene boxes - less and less used - are all single-use and put in the trash.

While it is impossible to neglect the convenience of ordering food from anywhere via cell phone or just taking the food to eat elsewhere, the search and development of sustainable packaging have not yet come to the forefront of the market.

To raise our entrepreneurial potential, we decided to suggest the creation of reusable packaging for the restaurant's takeaway service, with an appeal to reduce waste and build customer loyalty (discount for reusing the packaging).

The choice of possible materials for this packaging will be the central theme of product sustainability. Several materials could be chosen for product sustainability but not for customer loyalty: paper/cardboard, biodegradable plastics, banana leaves, and bamboo or mushrooms.

Plastics were not considered an option due to the immense sustainability gap with their use. According to Eurostat, only 35% of plastics used in Portugal went into recycling channels (Official EU Website, 2021).

Materials that could be used fulfilling both requirements would be bamboo, metal and glass due to their reusability without transformation.

Metal

The impact of metal happens mostly in extraction and production, and it is one of the most recycled products ever. There are many advantages to using metal; however, its cost and weight are too high for a restaurant to cover and impose on their takeaway customers. Should it be taken by customers, the use of metal packaging would be advised (Cheung, 2021).

Glass

As with metal, the impact of glass happens primarily in its extraction and production. Although entirely sustainable from the point of view of reuse, its use is quite disruptive in its production phase, creating an unbearable carbon footprint. Other negative points of glass are its weight and fragility, preventing it from being transported without worries, which could hinder delivery services (Cheung, 2021).

Bamboo

Bamboo has quickly become significant in the sustainable market due to its properties as an ecological source. Some species of Bamboo are the fastest-growing plants on the planet, varieties such as Guadua or Moso, can reach up to 25 cm a day in the growth phase, but there are records of other species with more than 1 meter per day (Bambusa, 2021). The characteristics of bamboo are high tensile strength, lightness, flexibility, fast growth, and increased productivity (Ecycle, 2021).

Choice of Material

The ideal material for the choice of *takeaway* packaging would be bamboo. As it is affordable and has characteristics that inhibit the perishing of food, combined with its sustainability, it would be the most beneficial choice of the materials considered.

Applied solution

We would then advise the restaurant to opt for the bamboo-based choice, which is initially charged to the customer, but which will benefit the consumer in the long run, as Starbucks does, for example, with its reusable cups.

This entrepreneurial action has incalculable potential, given the growing demand for sustainable and environmentally conscious products. Due to the low adhesion - still - of these packages, the differentiation in the market may also be a driving factor for corporate advantage.

CONTRIBUTIONS AND PRACTICAL IMPLICATIONS

It is well known that the pandemic of COVID-19 presents unprecedented social challenges, promoting discussions in various areas, not only those related to health. This study allowed the opportunity to address a recurring theme in recent debates, which focuses on excessive and growing waste generation.

In the pandemic context, there has been a significant increase in *takeaway* services due to changing consumption habits, which, in turn, potentially increases the generation of non-biodegradable waste, namely packaging for packaging and transporting meals.

Innovative entrepreneurs have a fundamental role in discovering this social need, thinking and developing ways to mitigate its impact. On the other hand, the current society, which is more aware of environmental and sustainability issues, tends to collaborate easily, recognizing the importance of the theme and absorbing the new product. Therefore, a collaborative environment is created among local players to facilitate the implementation of solutions to the social problem.

The product that is presented as a solution for waste reduction in the restaurant sector, the reusable bamboo packaging, has social and environmental importance and promotes the approximation between the company and the consumer by stimulating loyalty. The entrepreneur wins, the consumer wins, and the environment wins.

This study shows which is the most sustainable packaging to be used by *takeaway* restaurants and how it could bring customer loyalty to the companies that adopt it, but it presents some limitations. The implementation costs, whether restaurants would be willing to adopt this packaging, the long-term results/benefits of implementing this product and the reception of the idea by customers are some limitations found throughout the study, thus opening doors for other studies that could clarify these issues.

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THE COMMON SPIRITUAL CAPITAL IN INDIA-JAPAN MANAGEMENT – QUESTIONABLE ASSUMPTIONS AND THEIR IMPLICATIONS FOR EUROPE AND BEYOND IN GLOBAL BUSINESS

Ashta, Ashok¹; Stokes, Peter²; Visser, Max³; Hughes, Paul²

¹Faculty of Foreign Studies, The University of Kitakyushu, UKK, Kitakyushu, Japan

²Leicester Castle Business School, De Montfort University, DMU, Leicester, United Kingdom

³Institute for Management Research, Radboud University, Nijmegen, The Netherlands

ABSTRACT

Spiritual capital can provide an important synergistic lens for seemingly divergent CCM cases. Although spiritual capital theory is increasingly leveraged for organization studies, its deployment in cross-cultural management (CCM) situations has curiously not yet been reviewed in a detailed manner. In terms of international business, Japan's advanced and India's emerging economies are often seen as starkly different however new research recontextualises longstanding stereotypes with important consequences for understandings of trade relations in these settings. Thus, the current perspective-paper's objective is to explore how spiritual capital theory can provide insights for improved CCM through a review of recent research anchored on the Japan-India dyad and, thereby, provide novel avenues for future research. The perspectives developed in this *management practice-oriented perspectives paper* point to the potential application and contribution of spiritual capital theory based to dyadic research in relation to, for example, the United Nations Sustainable Development Goals (UN SDGs), especially SDGs 8 and 17 which pertain to decent work and international partnerships. The paper identifies implications for broader use of the initially reviewed dyad (Japan-India) as a launchpad for future research on a potential Europe-India-Japan triad

Keywords: Spiritual capital, cross-cultural management, international management, international business, organization studies, spiritual capital, cultural values, Japan, India, Europe

INTRODUCTION

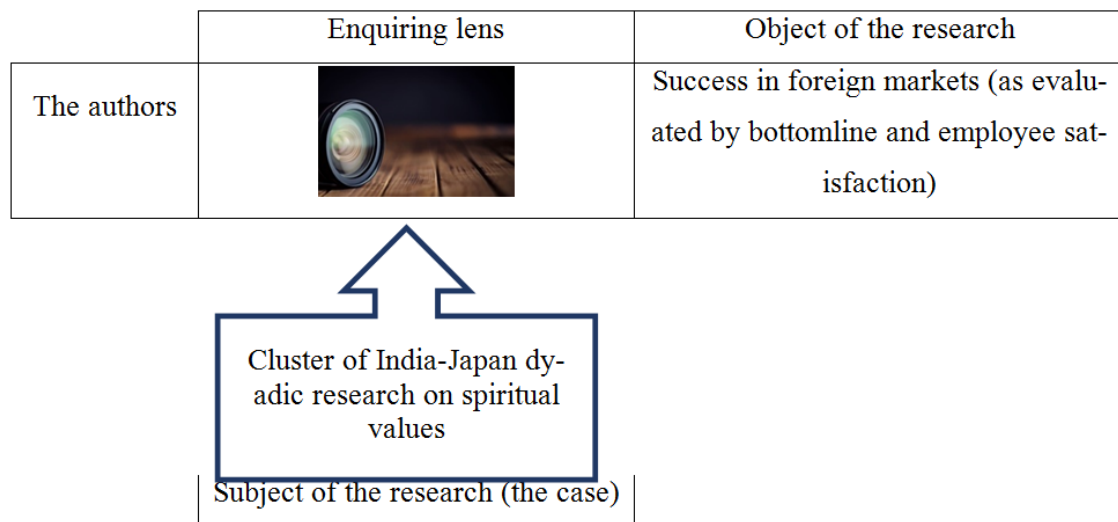
The primary purpose of the current perspective-paper is to illustrate how spiritual capital theory can provide insights for improved cross-cultural management (CCM) by a review of recent research anchored on the Japan-India dyad and, thereby, provide avenues for future research. The rationale for the research derives from the perennial question in international business (IB) of 'how to succeed in foreign markets?'. Foreign markets are challenging because they vary in terms of *inter alia*: politico-

legal environments (e.g., protections of intellectual property rights), economic environments (e.g., rich versus poor), and geographical environments (e.g., climate patterns). Vitality, at the root of all of these, is the inevitable people-to-people interaction challenge of cross-cultural management (CCM) understanding. Of course, what constitutes business success can vary according to culture, with emphasis ranging across a scale from the bottom-line to employee satisfaction. Recently, the idea of spiritual capital (founded on social capital theory, Putnam, 2000) has gained currency as a contributor to both profits and employee satisfaction (see for example, Stokes et al., 2016). Therefore, it makes sense to examine how the intersection of spiritual values and cross-cultural interactions intertwine to provide original insights to international business collaboration issues - be that friction or symbiosis.

Through adoption of an auto-ethnographic methodological approach (Edwards, 2021), recent novel auto-ethnographic research provides a vignette that derives from a culmination of the first author's 30 years of international business experience in world-class Japanese companies such as Toyota, Hitachi, Minebea, where he was CEO of their Indian subsidiary, and then the major Japanese food company Kameda Seika, where he served concurrently on a USA affiliate's board of directors. The initial research project (i.e. Spiritual Capital in International Business Research Project) investigated and developed an understanding of parallels between traditional Indian philosophy and contemporary Japanese managers' values and how they impact on intercultural business and dynamics of Japanese subsidiaries in India (Ashta, 2021a,b; Ashta et al., 2018, 2019, 2021). Fluency in English, Japanese and Hindi facilitated this research and, this talent mix provided rare insights. Also, because of long business leadership experience, it is equally possible to forge extremely rare bonds of trust with an elite cadre of CEOs and senior managers to get them to share critical incidents and peer-to-peer thoughts that inform the research findings. Thus, the overall topic on how to succeed in Indo-Japanese foreign market interactions is rendered possible by an anchored pragmatic research interest in spirituality, and the Japan-India initial hub approach. This gives rise to the research question:

RQ: How do common spiritual values in Indian and Japanese cultures interact and how do they impact on success in foreign market entry and performance through improved CCM?

In answering this RQ, the current paper advances management scholarship by way of developing "a reliable body of knowledge that managers can use" (Hambrick, 2007 p 1350) pertaining to spiritual values in CCM. IB scholarship recognizes the importance of dyads in intercultural studies (e.g., Bird and Mendenhall, 2016); in line, our perspectives-paper focuses on the India-Japan dyad as case-in-point to illustrate (Siggelkow, 2007) the usefulness of spiritual values to offer insights into issues of success in foreign markets by force of example (Flyvbjerg, 2006). Our adopted episteme is depicted in Figure 1.



Authors' diagram (2022)

FIGUR E 1: EPISTEMOLOGICAL PARADIGM OF THE CURRENT PAPER

BARRIERS TO CROSS-CULTURAL UNDERSTANDING

Our review of existing seminal CCM scholarship uncovered dominance of positivist-based research that offered over-simplified heuristics on national dimensions of culture. In other words, a lot of management research on international business is based on broad stereotypes lacking nuance. For instance, these CCM works often assign India and Japan to separate cultural clusters with corresponding connotations of differences. Interestingly, this runs against the depiction of commonalities in India and Japanese culture noted, for example, in other branches of social science, such as Religion and Social Anthropology. Moreover, seminal works of CCM such as those by Hofstede (1983), Trompenaars & Hampden-Turner (2012), Schwartz (1999) and the GLOBE study (initiated by House et al., 2002) tend to compare countries along *national dimensions*, such as for example whether people tend to be 'individualistic or collectivist'. Another typical dimension is referred to as 'power distance', which considers the hierarchical nature of society. Such studies present a number of these forms of scaled dimensions and have been critiqued, including because: a) they create a 'caged' framework of (positivistic) thinking (cf. McSweeney, 2016), b) they conflate the 'state' with the 'nation'—for example a United Kingdom (UK) culture that assumes a common culture between Wales, Scotland Northern Ireland and England—and c) they also assume that their findings at the national level would apply across sub-groups, for example at the organizational level, regional or faith level.

Keeping such critiques in mind, the present novel research deployed semi-structured interviews to overcome the caged thinking of seminal works, further recognizing reflexivity in the interpretive process (it is impossible to escape completely from a cage). This new research is sensitive to the use of

national-level study as a limitation (as culture can operate at other levels such as regional or gender sub-groups, cf. Mahadevan et al., 2019) and yet, following D'Iribarne et al. (2020) accept the usefulness of understanding national strands of culture. Further pertinent to our study, unlike a country like Israel, where sub-group differences can exceed cross-national differences, the relative homogeneity of Japanese managers is also recognized, and thus permitting the use of 'national' in the Japanese case.

Furthermore, moving on to the initial dyad (India-Japan) of the current research, previous CCM research on Japanese managing Indian operations did not delve into the depth of values at the foundation of management practices (e.g., Babu, 2011; Chakraborty, 1991; Desphande and Farley, 1999; Maharjan and Sekiguchi, 2016, 2017; Nakane, 1964; Sparrow and Budhwar, 1997; Takenori, 1993). There was a paucity of literature that examined the lived experience of Japanese managers in India and also of empirical qualitative data. As a result, though other branches of social sciences such as Religion and Anthropology had identified strong Indo-Japanese connections, such closeness had eluded CCM scholarship, with practical implications for international business, including decisions on where to invest.

REVELATIONS FROM A NEW LENS

This puzzling gap was addressed by first delving to empirical research on lived experience of Japanese managers in India in order to unpack a nuanced understanding of in-the-field intercultural situations. Thus our lens (see Figure 1) considered new values-focused research on the Japan-India dyad (specifically a lens constituted by Ashta, 2021a,b; Ashta et al., 2018, 2019, 2021). The continuing research examines potential friction, fusion and symbiosis in CCM situations based on background research on common traditional values in order to extend knowledge on the India-Japan intercultural dyad as well as CCM practice in general. Illustrations of the co-existing friction-symbiosis tension is captured in the following statement from one expatriate: "while I admit that our 'common sense' does not always align, it is extremely satisfying to work together with the local staff toward the same goal" (Kenji, Japanese trading company). This feeling found resonance with what another Japanese leader reported: "Initially I was worried about how to talk with Indian staff and I needed a lot of courage... there is still a long way to go, but I am feeling I'm really happy to be here." (Naomi, Japanese consumer goods manufacturer).

Several research publications from the Spiritual Capital in International Business Research Project integrate to serve these practice-derived research aims and embedded objectives (two background publications on common India-Japan traditional values and continuing focal publications that facilitate a synthesized generation of knowledge on the subject) (Ashta, 2021a,b; Ashta et al., 2018, 2019, 2021). These publications collectively reveal a number of themes with respect to India-Japan

CCM situations. The research recognizes and analyses premises grounded in the dominant-religion and national-based characterization of culture. However, importantly and differently, the paper adopts a spiritual capital lens - spiritual capital referring to the spirit (not necessarily faith-based) of the individual understood through values, beliefs and attitudes (VBAs), the building blocks of culture - and the capital that results because of linking and bridging in relationships (therein the founding in social capital theory). The study finds an intersection of traditional cultural values between India and Japan, such as harmony and diligence, which could be leveraged to generate common spiritual capital to lubricate firm success in terms of profits and employee engagement. This spiritual capital aspects are elaborated and expanded further in the paper.

By way of further example, the work provides in-depth original insights into the Japanese talent/expatriate perspective on cross-cultural-communication in the Indian context. It indicates three values: first, the common spiritual capital-based practical insights on talent management; second, alternatives to existing frameworks approach to cross-cultural management; and finally, since India can be seen to be on the East-West borderline (or spectrum mid-point), it also offers insights to European and American talent management in East-West contexts. In this way, by engaging with extant spiritual capital-based linking and bridging capitals theory (derived from previous social capital theory, Putnam, 2000), reverse adaptation and mapping of world cultures theories, the research generates practical insights to facilitate more fluid dynamics of intercultural situations of Japanese companies in India specifically, but also possible to universalize to other intercultural dyads in Europe and beyond.

THE ADVANCING GLOBAL UNDERSTANDING PROJECT

Concerning the impact of the work, the Spiritual Capital in International Business Research Project advances knowledge about CCM by creating an original cluster of intercultural publications on the India-Japan dyad, enriching the intercultural branch of CCM literature, and for advancing rare empirical data-based theory for a Vedic-Buddhist cultural cluster that had eluded CCM scholarship. Given the size and potential of the advanced economy of Japan and the emerging economy of India this provides vital new and enriched understanding.

The theoretical developments have a number of impacts on business practice. For example, the visualization of a novel and hitherto uncommented Vedic-Buddhist cluster – the similarity lens – could spur investment, the dyad-specific cultural findings would impact training decisions. Universalizing, based on the Japan-India dyad, the research project further suggests that the intersection of values that are brought to the intercultural situation influences the spiritual capital driver and in turn the employee engagement and bottom-line.

The social contribution of this research is potentially tectonic in nature. For the broader society this research fertilizes hope for the achievement of United Nations Sustainable Development Goals 17 and 8 that pertain to international partnerships and decent work. Here decent work is understood as better prospects for personal development and social integration - an important social point for business in the community. The research project does this by highlighting attention to values such as harmony and compassion, ideas that point peaceful coexistence and co-prosperity rather than adversarial nature of capitalism in international business. It also raises hope for businesses in Europe and beyond to seek out values intersection (as opposed to divergence, so common in conventional research) for practical leverage in terms of fostering linking and bridging engagements resulting enhanced organization spiritual capital.

PRACTICAL IMPLICATIONS

Enthused by such initial results, we call on the broader business and management community to leverage these findings in their organizations. For example, in management development, this research project expanded to consider data from USA and Thailand. That research found that though under seminal research work design motivations might vary across rich and emerging economies, in the context of the Japanese multinational subsidiary there could in fact be convergence of values related to motivational work design. Such a counterintuitive convergence lens can then be leveraged for strengthened perception and the deployment of spiritual capital of the organization.

One of the stated motivations for this research project was how might investors succeed in foreign markets (such as India), and the importance of managing cross-cultural gaps. This is addressed in a holistic manner by considering elements of friction and symbiosis in cultures. In terms of value-based management philosophy porting, there is a strand in CCM that leans to a view that culture is relatively stable – evidence from this research project suggests that it is worth taking note of the evolving nature of workplace values, and this is a generalization that universalizes beyond the dyad under study. Businesses tend to seek ready-to-emulate scenarios. In keeping with the *zeitgeist* of the millennials, a future development could, for example, consider the case of an international business leader who derives (defines) success from its generosity (not be confused with philanthropy). The construct of generosity would need to be defined, but potentially it might be possible to induce and explore new theory, and ‘case study’ is a useful method to inspire new ideas.

Thus, we can envision research into other permutations of the current study i.e. the Indian employees lived experience in Japanese MNCs in India, Indian managers in Japan, Japanese employees in Indian MNCs in Japan. Second, this research could extend to other countries, from other world clusters, e.g. UK-India dyad, UK-Japan dyad, and then other dyads, such as The Netherlands-

China and so on and so forth. Third, leverage the findings from the India-Japan hub, and in keeping with the development aspect of the SDGs, the world would benefit if societies at the leading edge of innovation, such as Japan, USA and Europe, could focus on needs of countries that need the benefits of such innovation, such as India. Thus, it might also be interesting to expand this to a triad – Europe-Japan-India collaboration. Fourth, and perhaps most importantly, we anticipate greater attention to spiritual values ('generosity' is just one example) and spiritual capital driving management philosophy and management development.

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COVID-19 AND FINANCIAL MARKETS: THE STORIES OF SEVERAL COUNTRIES

Ayadi, Ahmed¹; Kallel, Chaima²; Gana, Marjène³

¹University of Carthage, IHEC Carthage, Laboratoire d'Economie et de Finance Appliquées (LEFA); Tunisia, - University of Paris 8, Laboratoire d'Economie Dionysien (LED); France, - Center of Research for Energy and Climate Change (CRECC)-Paris School of Business; France

²IBS Budapest, Hungary; Europe Ltd Budapest, Hungary

³University of Carthage, Polytechnic School of Tunisia; Laboratoire d'Economie et de Finance Appliquées

ABSTRACT

The recent COVID-19 pandemic has influenced many social, economic, and business-level decisions across different countries. In this paper, we examine the response of several financial markets: Australia, Brazil, China, Iran, Russia, Spain, Sweden, South Korea, USA, Germany, and Tunisia to the evolution of the COVID-19 pandemic during the first wave. We expect that financial markets of countries which took quick and effective measures to contain the virus would be less vulnerable to the shock, especially the one coming from cases around the world. This paper focuses on the traits of psychology of investors in each country to investigate the reaction of each of the financial markets, with respect to articles that have studied the investor psychology. Using VAR model and impulse functions, we find that (1) market responses to the pandemic is less persistence and less vulnerable to external shocks in countries which reacted quickly to limit the spread of the virus; (2) the sign of the market response depends on the existing characteristics of investors' behavior in each country. *Keywords:* COVID-19, Equity markets, VAR model

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INTRODUCTION

The recent outbreak of the COVID-19 pandemic launched several reactions amongst countries. Each nation chose to fight the propagation of the disease on its soil in its own way, yet most of the countries opted for a general lockdown. In financial markets, the reactions are expected to be remarkable, as no event had caused the world to halt its activity so severely during the last decade as COVID-19 pandemic did. Intuitively, the reaction of investors to the outbreak of the pandemic would be affected by psychological factors, due to the sudden nature of the crisis. Human psychology is more fragile in

crises periods when uncertainty reaches its peak, leading to a more pessimistic view of the future. A logical implication is that investors would panic and overreact to this situation suggesting that stock prices would decrease in response to bad news (Barberis, Shleifer and Vishny, 1998). However, stock markets reacted differently to previous pandemics as shown in Fidelity International¹ and Avatrade reports². For instance, during the Asian flu (1957), the SP 500 index rose by 20 percent while the British equity market fell by 5.8 percent. Similar reactions of both markets were perceived during the Spanish Flu (1918). During the Hong Kong Influenza (1968) the SP 500 index and the UK equity market both rose respectively by 12.5 percent and 57.5 percent. These contrasting observations could be explained by differences in investor sentiments, mainly fear and greed. These sentiments could be driven by the difference in reactions, measures taken by governments and the level of scientific and technological development back then. In other words, countries that react faster to face pandemics where scientific research is more promising and where the economy values more telecommunication and online-based work, investors are more optimistic and therefore greedier. This raises the question on whether such mixed reactions could be seen across different markets during the current Corona-virus pandemic. Recently, the outbreak of the novel Corona-virus and the quasi-global lock-down serving as its consequence pushed researchers to conduct several studies concerning its effect on the global economy. Aloui et al. (2020) used Time-Varying Parameter Vector Autoregression (TVP-VAR) model and found that the COVID-19 shocks caused response by the natural gas and oil commodities, explained by both fundamental and behavioral factors. Mzoughi et al. (2020) found that the response of oil market is short-lived while, the response of economic activities was negative throughout the studied period and that the shock on equity markets was stronger than that on oil markets. De Vito and Gomez (2020) found evidence of cash crunch caused by the outbreak of the Corona-virus in China and 35 OECD countries. Zhang, Hu and Ji (2020) focused on showing the country specific risks and systemic risks caused by the disease in the global financial markets.

Inspired by all these works and the various scenarios which occurred due to the COVID-19 outbreak, we perform a short-term study on the behavior of financial markets across 10 most relevant countries during the appearance of the crisis: Australia as a representative of Oceania, Brazil as the most affected country in Latin America, China as the origin country of the virus, Iran as the most affected country in the Middle East – especially at the beginning of the outbreak, Russia, since it is witnessing a remarkable growth in the number of deaths and infections, Spain as the 2nd most affected country in Europe³, Sweden as a country that did not impose lockdown, the USA as the most affected country in the world,

¹ <http://www-stat.wharton.upenn.edu/steele/Pandemic/Resources/FidelityPandemic.pdf>

² <https://www.avatrade.com/blog/coronavirus-financial-update/stock-market-during-viral-outbreaks>

³ Italy is the most affected country in Europe, yet the data for the Italian stock index were not available, so we chose Spain, the second most affected country

South Korea as it managed to control the disease at first but then a wide outbreak was recorded, Germany and Tunisia as success stories in containing the spread of the virus. Specifically, we use the Vector Autoregressive Model (VAR) and its impulse response functions to test implications of how stock prices relate to (lagged) new and cumulative Corona-virus cases inside each country and to those across the globe as well.

Although various studies compared the impact of COVID-19 on various countries while considering the cultural effects (Khan et al.,2020; Ashraf,2020; He et al.,2020; Baig et al., 2021 and; Fernandez-Perez et al.,2021), to the best of our knowledge, our study is the first to investigate the impact of the pandemic on countries with different preventive measures. In fact, the main element that distinguishes our work is the comparison of the impact of the pandemic on equity markets with the preventive measures in each country. More precisely, the country choice is based on the measures they took to fight the virus and how the pandemic affected them from a medical point of view (number of cases, number of deaths). Consequently, we try to see whether the political actions imposed by each country helped to further ease or strengthen the impact of the disease on financial markets. Moreover, we tried to link these two elements by the major characteristics of investor psychology in each country. Our results suggest that the more effective the political actions are in controlling the spread of the virus, the more relieved are investors, thus a smaller effect on financial markets is observed.

As one may wonder if the financial market worries more about the rise in COVID-19 cases or the uncertainty about the pandemic, our prediction is that the seriousness of the response to the shock coming from pandemic outbreak depends widely on how fast and effective countries were in taking actions to contain the spread of the pandemic. We also expect that those countries would be less vulnerable to new or/and cumulative cases in the world. As for the sign of the reaction, it would depend on the existing psychology of investors in each country. The following section provides a detailed empirical analysis. The third section concludes

EMPIRICAL FRAMEWORK

Data

We gathered data regarding stock index prices for several countries: American SP500, Chinese Shanghai Index, Spanish IBEX 35, German DAX 30, Swedish OMX Stockholm, Russian RTS, Australian ASX, Iranian Teheran Index, Tunisian TUNINDEX, South Korean KOSPI composite Index and Brazilian IBOVESPA. First, we took daily observations ranging from December 31st 2019 and May 22, 2020. Afterwards, we created sub-samples, each one of them starts at the day on which the first COVID-19 case was recorded for each country. Consequently, the Australian sample starts on January 27, 2020, the Brazilian sample starts on February 26, 2020, the Chinese sample starts on January 13, 2020, the

German sample starts on January 28, 2020, the Iranian sample starts on February 19, 2020, the Russian sample starts on January 31st 2020, the South Korean sample starts on January 20, 2020, the Spanish sample starts on January 31st 2020, same is for the Swedish sample, the Tunisian sample starts on March 3rd 2020 and finally the American sample starts on January 20, 2020. The stock market data were collected from Yahoo Finance for all the indices, except for TUNINDEX data, which were collected from the website of Tunis stock exchange (the trading volume data were collected from Yahoo Finance), RTS data which were collected from the website of Moscow stock exchange and the Iranian index data which were collected from the website of Teheran stock exchange. As for the COVID-19 statistics, they were collected from the World Health Organization's website. We eliminated the weekends' observations from our data-set (Saturday and Sunday for all the countries except for Iran, the weekend is Thursday and Friday). Moreover, we chose to keep the data in their original currencies in order to eliminate the contagion effect which could be transmitted from one country to another via the exchange rate with the US Dollar.

The model

To generate our results, we estimated a basic VAR model¹ presented as follows, following Statman, Thorley and Vorkink (2006):

$$Y_t = \alpha + A_k Y_{t-k} + e_t \quad (1)$$

Where Y_t presents a vector containing the dependent variables, α is the intercept, A_k is a vector containing the coefficient estimates, Y_{t-k} is a vector containing lagged observations for Y_t and e_t is the residual term. The model is estimated for each country separately. The dependent variables are the number of new cases in the world, the number of world's cumulative cases, the number of new cases for each country, the number of cumulative cases for each country and the stock market index prices for each country. For each model, the number of optimal lags is determined by four information criteria: Akaike Information Criterion (AIC), Akaike's Final Prediction Error Criterion (FPE), Hannan-Quinn Information Criterion (HQ) and Schwarz Information Criterion (SBC).

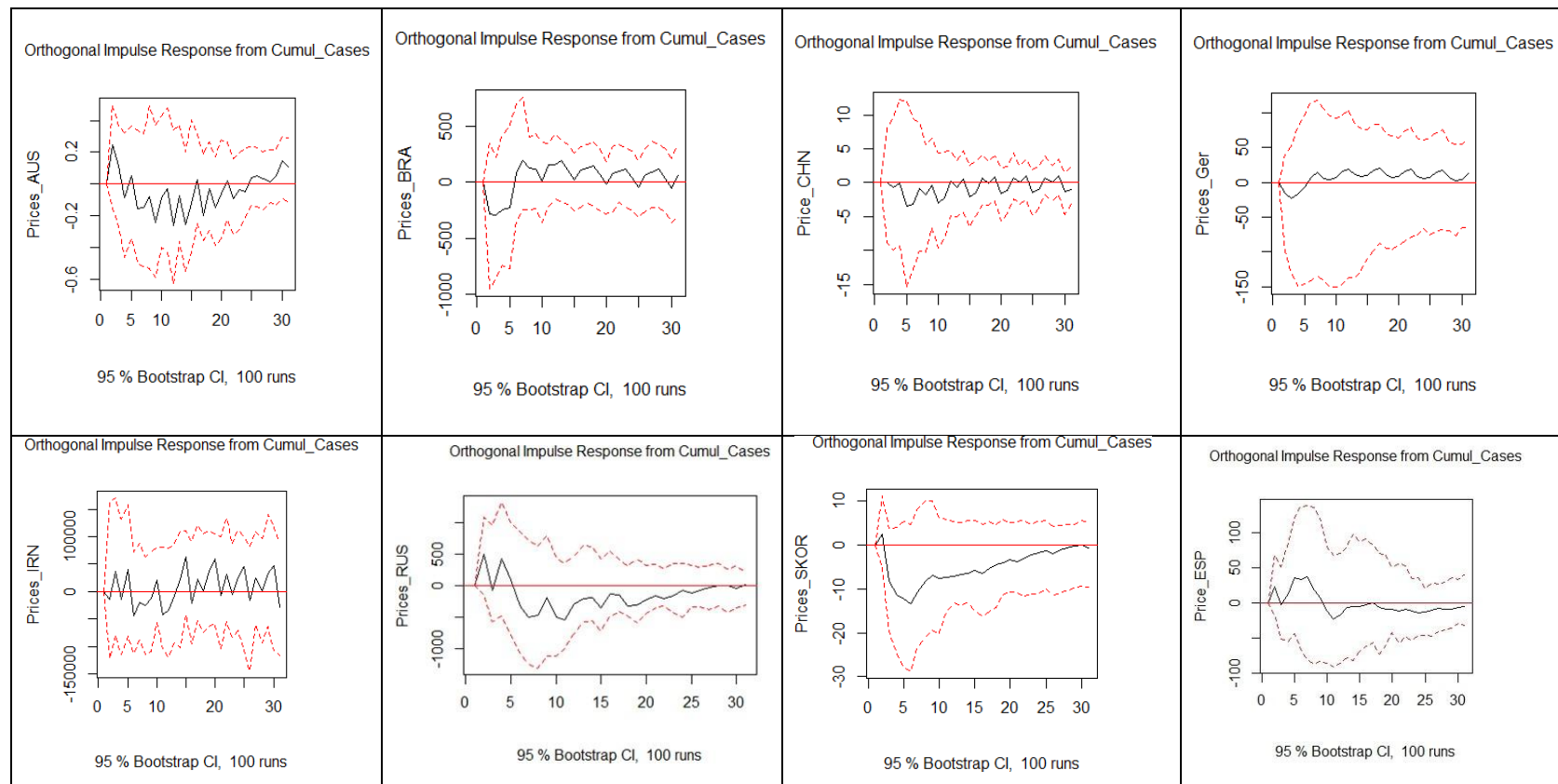
Having estimated the model, the second step is to establish the impulse response functions to study the response of the stock market prices to the daily new cases and cumulative cases for each country and, world cumulative cases.

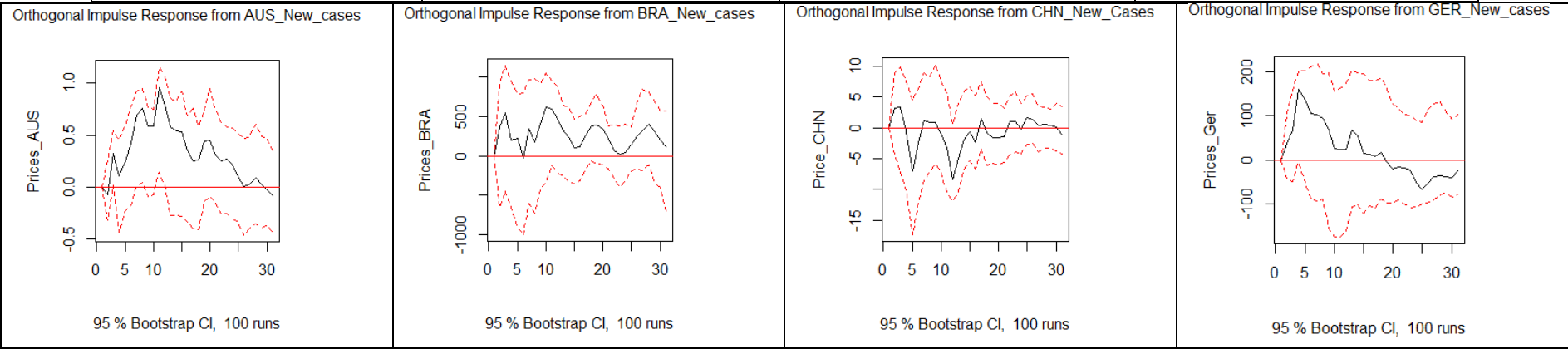
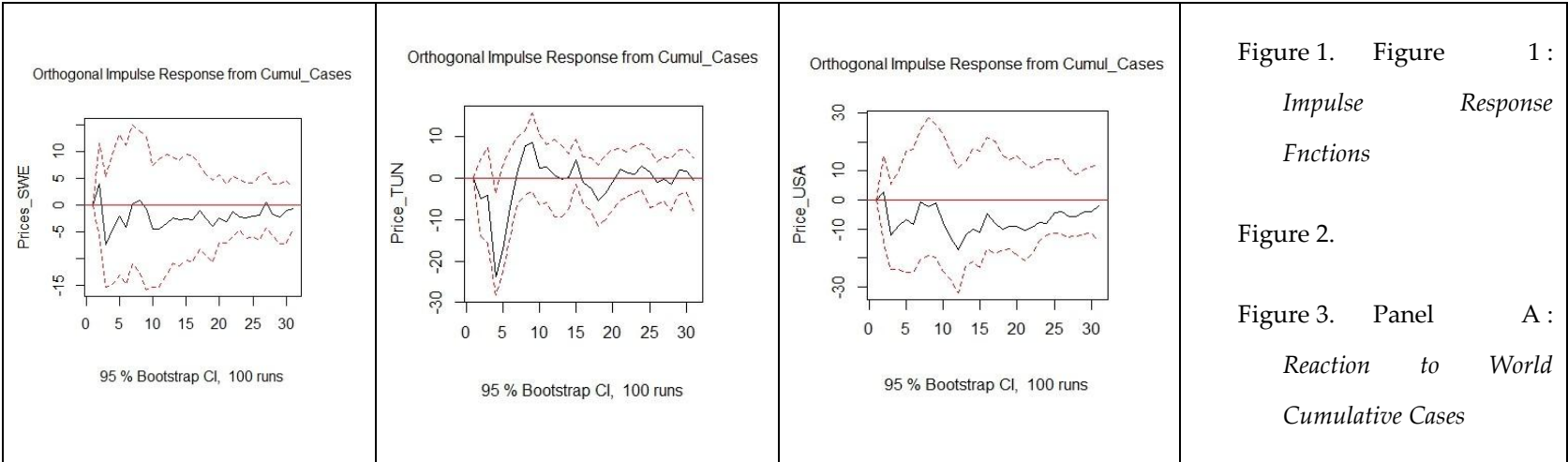
Result discussion

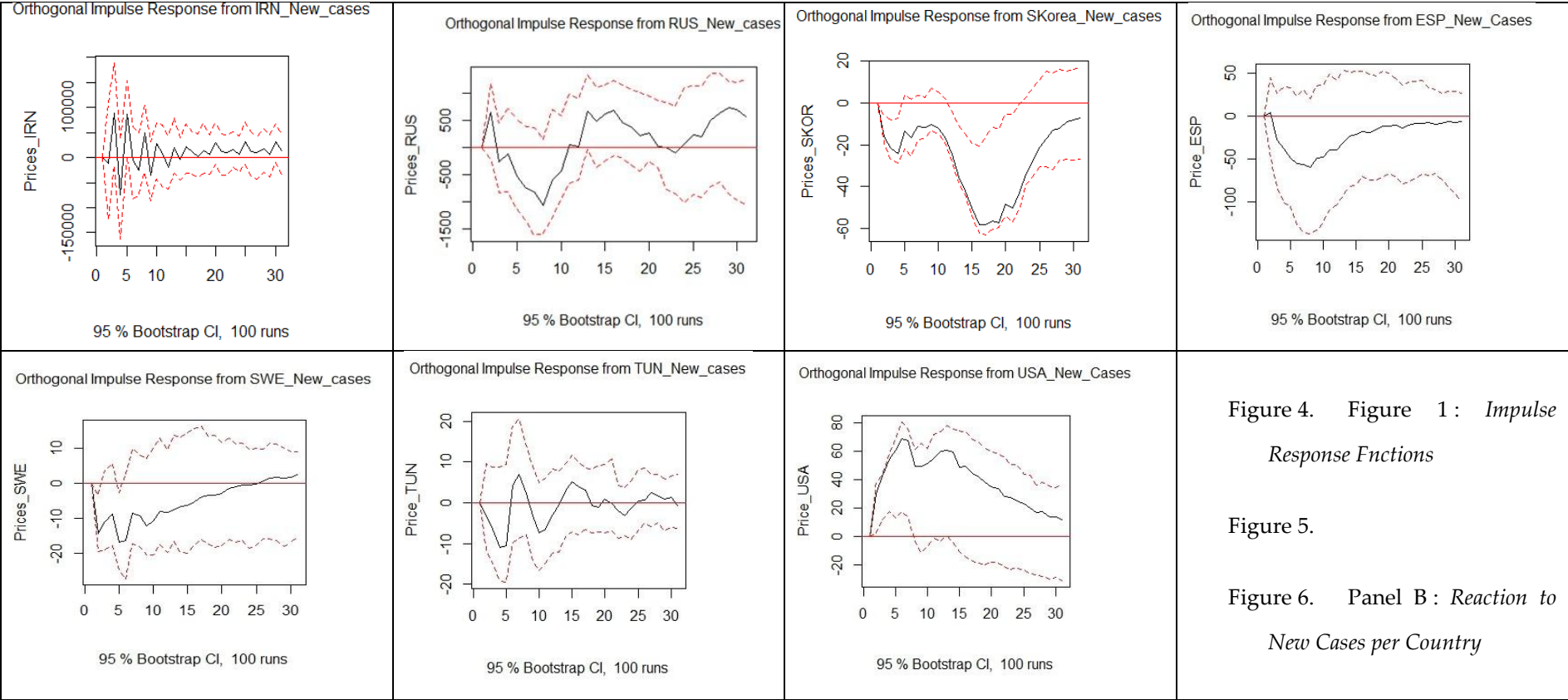
¹ In VAR model, the vector can be composed by variables having different units (see Bjørnland, 2000)

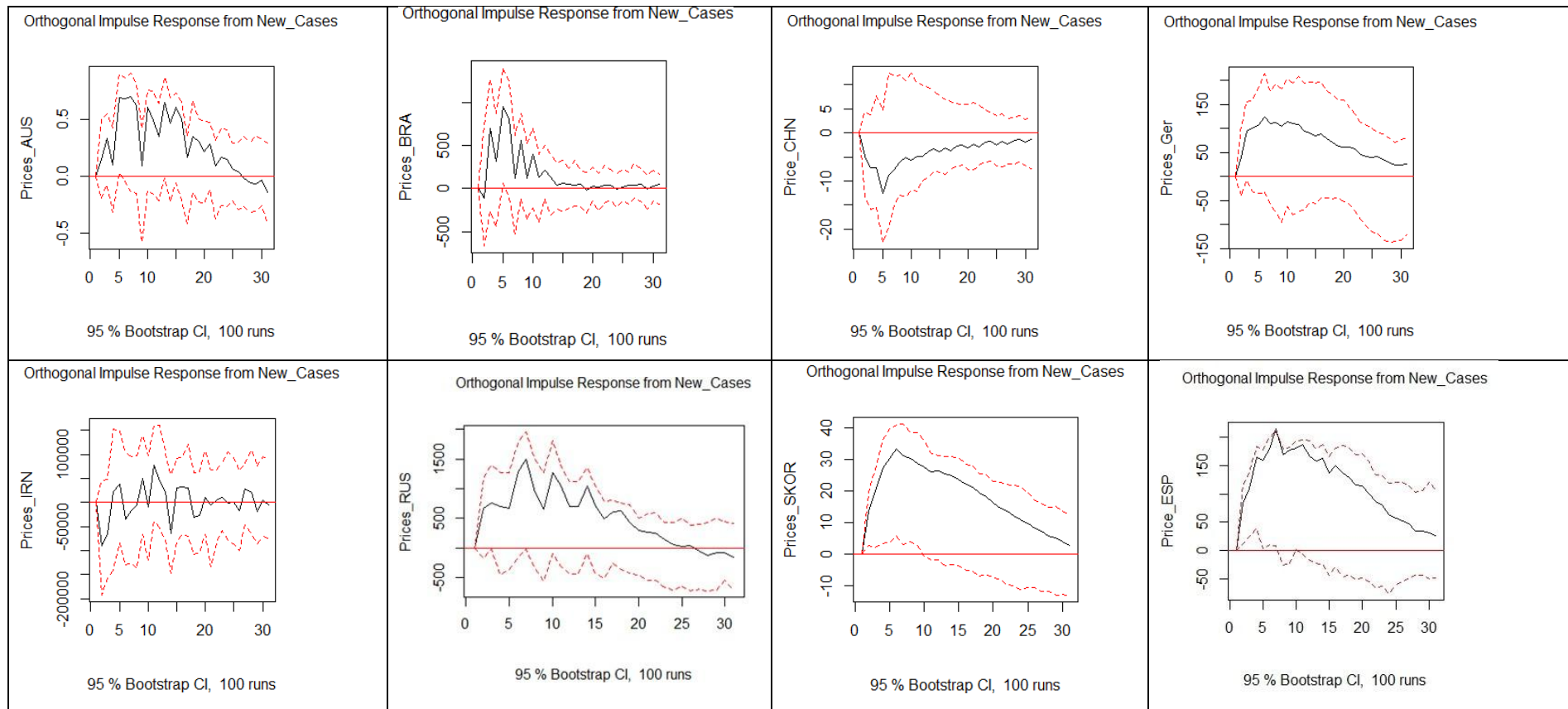
The impulse response functions are reported in Figure 1, while the graphs for the number of cases and the prices are reported in Figure 2.

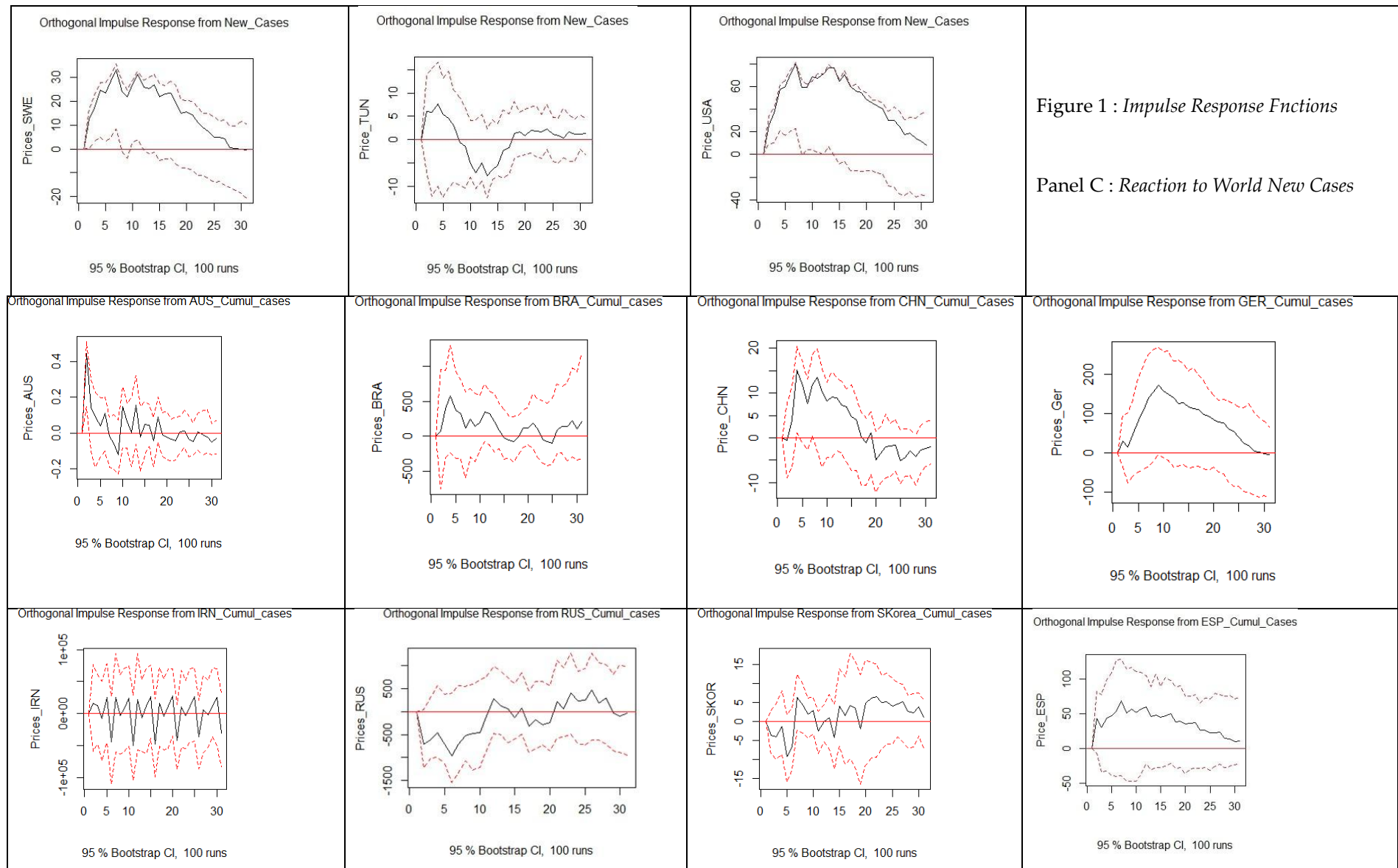
Starting with Australia, the impulse response functions show that Australian stock market response to world cumulative cases starts with a price increase, and then it falls below zero before the 5th day and remains so for the next 20 days. Similar reasoning is applicable on the market response to the cumulative number of infection cases in Australia. The market response to Australian daily new cases is more pronounced than the response to world new cases and cumulative cases in both Australia and the world. The recording of new cases caused prices to rise sharply up to a time lapse of 10 days. Afterwards, prices started to fall steeply to become negative on the 30th day and still falling. Our observations align with Akhtar et al. (2011)'s finding: the Australian stock market experiences a negativity effect when bad news is announced. A plausible explanation for this is that the negative information related to the increase in the recorded number of new cases would push stock prices down. Consequently, investors will start buying stocks, hoping that they will benefit later from selling them at higher prices. This intuition is observed in Figure 2. In fact, when new cases are being recorded, stock prices have a downwards pattern while trading volume is rising. It is worth noting that after the 30th day, the shock becomes close to zero. The response to world new cases is quite similar but with a smaller magnitude. It is worthy to mention that the first corona-virus case in Australia was recorded on January 27, 2020 and the lockdown was imposed on March 13th 2020. During the time interval of the IRFs, the precautionary measures were not yet implemented in Australia. The majority of individual Australian investors are long-term investors (Clark-Murphy and Soutar, 2003). These traits of Australian investor psychology explain the behavior of Australian investors following the announcement of new cases of infection being recorded in the country. The shock is relatively persistent, trading volume and the stock prices do not get back to normal until the end of the study's period. This confirms that Australian market participants are long-term investors.

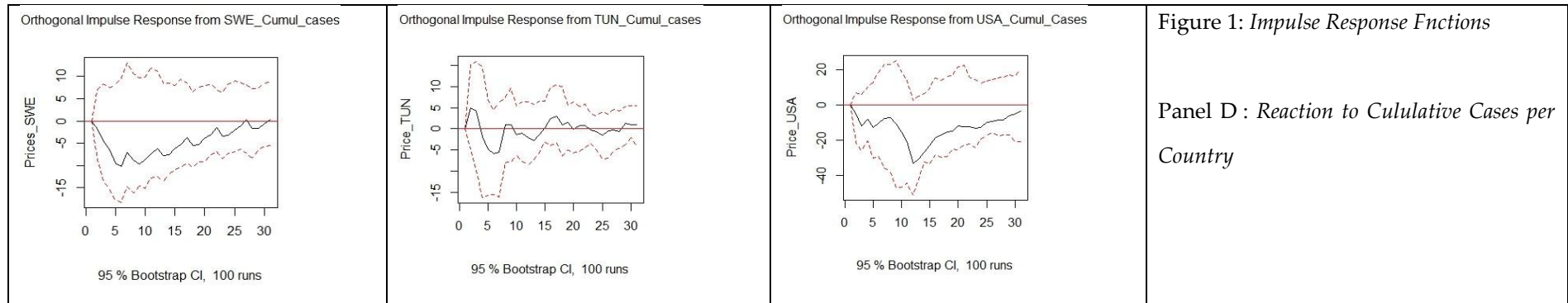












Turning to Brazil, the findings show that during the time interval of our study, the sharpest market response is the one towards world's new recorded cases. When new cases are being recorded in the world, it seems like Brazilian investors were anticipating the arrival of the shock to their country, especially when the first cases were recorded in Brazil. Thus, prices rose sharply due to the increase in trading volume, a pattern that is confirmed in Figure 2. The interesting thing is that the shock is absorbed by the market by the 15th day. While the response to world cumulative cases is mostly negligible, the response to Brazilian new cases and cumulative cases are fluctuating. This pattern is still observable up to 30 days from the recording of the first case of infection in Brazil. In addition, they have a smaller magnitude than the reaction to world new cases. This suggests that Brazilian investors' fear from an external shock transmission that is stronger than that from an internal shock. This is expected since Brazil is the most contaminated country in Latin America and ranked second in the world after the United States, in terms of number of cases, during the period of our study. Damke et al. (2014) show that 75% of Brazilian investors show evidence of optimism and regret aversion while overconfidence was detected for only 10% of the respondents. Therefore, the fluctuation in response mentioned above is due to these behavioral biases: Brazilian investors are risk averse; thus, prices go down with their cautious attitude. Then prices rise up since investors are optimistic about their authorities' potential reaction to contain the pandemic, as the pandemic reached Brazil after other countries. Market participants would anticipate that the Brazilian authorities will learn from what happened abroad and take the necessary measures to control the virus.

Despite being the origin country, China's response to the pandemic's out-break was rapid and effective. The sharpest stock market response is that to a one standard deviation shock to the number of cumulative cases in China. The Chinese market is more sensitive to the number of cases as a whole than to the number of daily infections. The rise in the number of cumulative cases in China pushed stock prices higher at the beginning of the impact period. Afterwards, prices became negative by the 20th day, with a pattern closing to zero following the 20th day. The Chinese market response to new COVID-19 cases in China pushed prices downwards; with some fluctuations towards zero; and then the market absorbed the shock by the 15th day. The Chinese market response to a shock coming from the new cases recorded in the world is similar to the previous case, but the shock absorption takes a bit longer time to be established. As to the response to world cumulative cases, it is negligible. It seems that Chinese policy in combating the new COVID-19 was so effective that it gave positive signals to the stock markets, which helped it absorb the shock within two weeks. Wang, Shi and Fan (2006) document what they call a "speculative orientation and a low-risk perception" in the Chinese stock market. This behavior is

the reason behind the market response. The speculative orientation is quite observed in the heightening of prices due to the increase in trading volume. This is shown further in the relatively rapid shock absorption by the market. Intuitively, investors have already bought stocks as they anticipated the price fall and they sold them when prices rocketed.

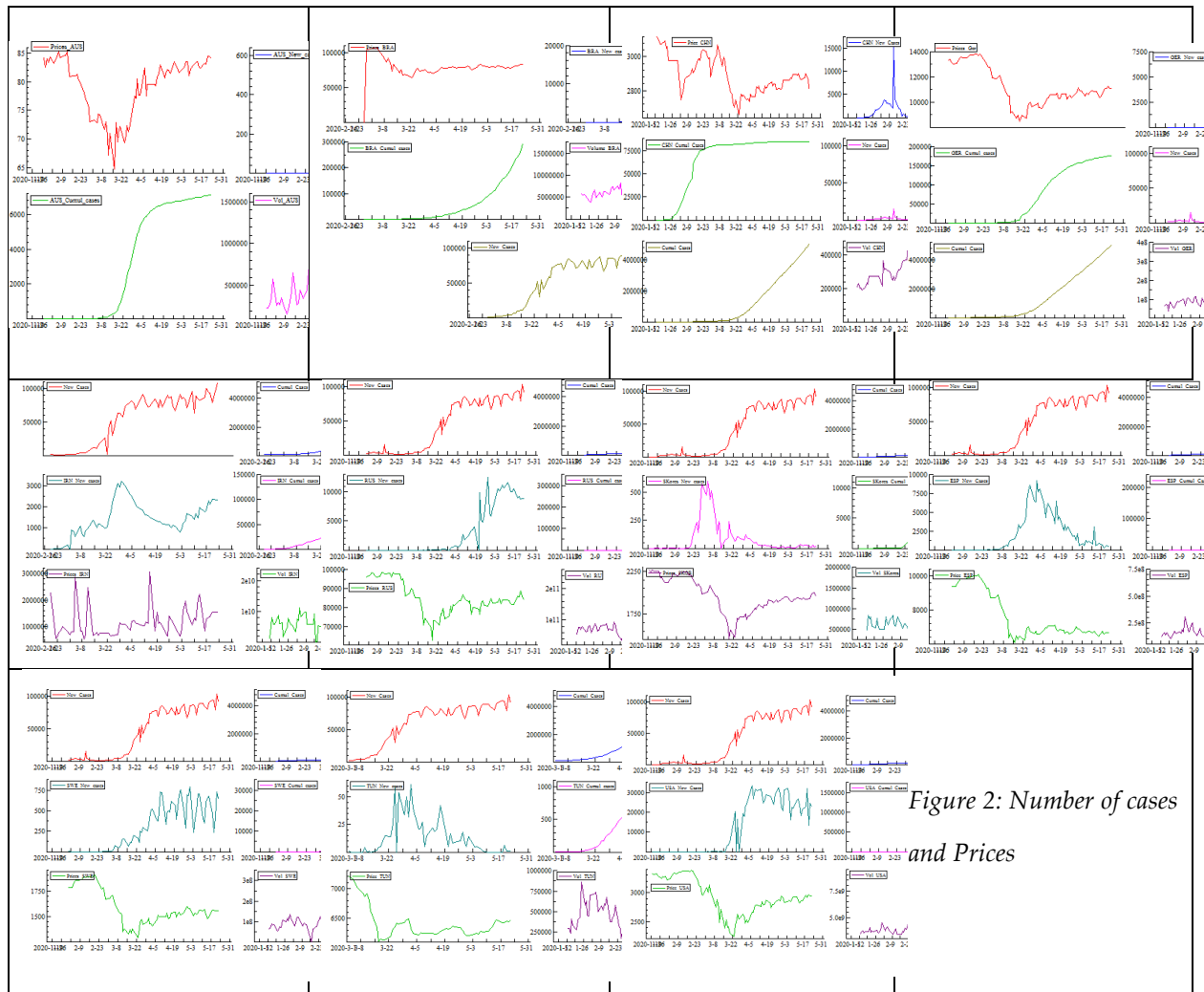


Figure 2: Number of cases and Prices

Regarding Germany, the sharpest market response is the one towards the number of daily new cases recorded in Germany. The recording of new infection cases (and the rise in the number of total cases in Germany) pushed prices up at the beginning of the impact period, due to the upwards movement of the trading volume. The effect of these shocks started to decay later in time, until the market absorbed the shock coming from the new German cases by the 20th day and by the 30th day for the cumulative cases. Although the shock on the number of new cases has stronger impact in terms of magnitude, its effect lasts shorter than that of the cumulative cases. Despite Germany's quick reaction in taking anti-propagation procedures, which decreased the number of new daily contaminations, investors seem to be still cautious concerning the increase in the number of total cases in the country, even with its decreasing pattern. While the German stock market response to world new daily cases is quite similar to that to the number of

German cumulative cases. The response to world cumulative cases is mostly close to zero which might indicate that German investors are also cautious about the impact of the pandemic on countries other than Germany. It is worth noting that the first case was recorded in Germany on January 28th, 2020 and the lockdown was imposed on March 23rd, 2020. German investors' portfolio selection procedures are driven by their "bounded rationality" (Oehler, Rummer and Wendt, 2008). Indeed, the stock market response of Germany shows that the actions undertaken by market participants are driven by the inflow of information they are receiving about the spread of the virus, making them take instant decisions to tackle with the potential future effects of the crisis.

Turning to Iran, the graphs in Figure 2 show that Iranian stock market is quite volatile during the period of the study. This is observable in the fluctuations of both stock prices and trading volume. While the response to shocks coming from new cases in both Iran and the world decays quickly, the response to cumulative cases is persistent. The interesting fact here is that in the impact periods (the whole 30 days period for the cumulative cases), the impulse response functions in Figure 1 show heavy fluctuations. Intuitively, this could be explained by the fact that Iranian investors were negatively affected by the appearance of the pandemic out of Iran (as the price dropped down). Consequently, trading volume rose by the arrival of the first cases to the country, which caused the positive shock. While the market absorbed this shock rapidly (by the 10th day away from the impact period), the steep increases in the number of cumulative cases, combined by the hope that government's interference to contain the outbreak would make things better¹, caused the fluctuations of the shock. This could be explained by the dependence of the decision-making process of Iranian investors on political factors, as documented by Shafiee Shirdasht et al. (2014). As US sanctions prohibit the nation from getting foreign aids, Iran faces the obligation to depend on its own political doctrine to control the sickness spread. Another solution is to seek support from its traditional political allies, i.e. China and Russia. As mentioned earlier, both the fear for the economy and the patience for self-made solutions are the drivers of the market response to the COVID-19 shock².

Turning to Russia, the results show that the sharpest response is that to a shock coming from the global number of new cases. In fact, in the first 30 days³, the number of new cases recorded in Russia was not so high⁴. When Russia started recording COVID-19 cases, stock prices at

¹ yet no improvement was recorded during that time lapse

² The lockdown was not imposed during the time lapse of the IRFs)

³ Time span of the impulse response functions

⁴ Even though it is considered amongst the most contaminated countries at the present

Moscow stock exchange dropped, then they heightened to reach and surpass zero. The shock is persistent, and the prices rose further by the 30Th day and beyond since the rise in the number of cases would push investors to anticipate the future fall of prices, thus trading volume increases, hoping to make profit. The shock from Russian and world cumulative cases decays quickly, suggesting that the Russian equity market is more sensitive to information about new cases than to those of the number of cases as a whole. Russian stock market's sharp response to world new cases could be explained by the fact that Russian investors were anticipating the pandemic to reach their borders. This is due to the fact that Russian investors herd without reference to fundamentals during unexpected financial crises that show high uncertainty when markets are low, as suggested by Indars et al. (2019). Consequently, they behaved in a way that pushed prices up because of the increase of trading volume. Yet that shock decayed to reach zero by the 30Th day.

The South Korean market responds the most to South Korean new cases. While the market response to a one standard deviation shock to the number of cumulative cases in both South Korea and the world decayed relatively quickly, the increase in the number of cases recorded in the world seems to launch anticipations amongst South Korean investors that prices would fall when the pandemic reaches the country. Thus, trading volume increased and prices rose. The thing is investors' expectations were not mistaken. One standard deviation shock to the number of new cases in South Korea pushed stock prices down, especially when the number of recorded new cases rose sharply. Yet, the shock was absorbed by the market due to the country's effective strategy to contain the outbreak of the sickness. This attitude is explained by the positive relationship between South Korean stock market returns and investor sentiment, as documented by Yang, Ryu and Ryu (2016). Intuitively, the inflow of information about recorded cases raises fear amongst investors, which pushes prices down. Yet the quick response of the authorities created a sense of relief in the market, which helped absorb the shock.

The impulse response functions graph for Spain show that its stock market responds the most to shocks coming from the number of new cases in the world. At the dawn of the impact period, the increase in the number of new cases outside of Spain seems to have triggered fear amongst Spanish investors. Consequently, the trading volume increased and prices went up. Few days later, i.e. when the pandemic reached Spain, prices went down. Yet, the market absorbed this shock by the 30Th day. The response to world cumulative cases is practically negligible, while the response of stock prices to a one standard deviation shock on the Spanish cumulative cases has the same pattern as that to the response to shocks on the number of world new cases. Thus, Spanish stock market is more sensitive to information coming from abroad than to its own. The

reaction to this inflow of information affects investors' behavior in the future, even regarding information about the pandemic's evolution in Spain. This is quite anticipated since Spain is considered amongst the busiest tourist attractions in the world. Besides, the pronounced market reaction is probably explained by the fact that Spain is one of the most affected countries in the world, which puts further Spanish investors' risk averseness, as documented by Andreu et al. (2012). For this reason, the shock was practically persistent.

Swedish stock markets exhibited strong response to shocks on the number of world new cases. Again, it could be said that Swedish market participants were seeking to make profits as they anticipated a future fall in prices which would be, according to them, followed by a rise. This rise in prices would allow them to reach levels even higher than the pre-pandemic times. This behavior is explained by the ostrich effect documented in Swedish market by Karlsson and Loewenstein (2009). In fact, their findings show that Swedish investors monitor their portfolios more frequently in rising markets than in low markets. Consequently, in the times of the pandemic, it could be said that Swedish investors paid attention to the markets despite their low performance since they were waiting for the market rise in order to make profits. The interesting thing is that Sweden did not opt for a lockdown to slow down the propagation of the pandemic. The market's reaction is simply a relatively steep fall in stock prices when the sickness reached the country. This reaction is observed towards shocks to both the number of new cases and cumulative cases. Moreover, the shock was persistent, as it did not decay until the 25th day. As for the reaction to world's cumulative cases, it is rather negligible.

The results for Tunisia show that the Tunisian stock market is mostly sensitive to the number of new cases being recorded daily in the world. News about new corona-virus contamination cases being recorded in the world caused a slight increase in equity prices at the beginning of the impact period. Again, this is the result of the increase in trading volume, issued by fear about the arrival of the pandemic to the country. This fear is a consequence of the loss aversion bias found in the Tunisian stock market, as documented by Rekik and Boujelbene (2013). The response of the Tunisian stock market to shocks coming from Tunisian number of new cases, cumulative cases and world cumulative shows a different pattern: these information inflows made prices decline at the beginning of the impact period. The interesting thing about Tunisia is that its market rapidly absorbed the shocks related to COVID-19 cases. Consequently, it could be said that the rapid reaction of the Tunisian government to contain the pandemic's outbreak launched a relief sentiment in the market. Thus, the shock was not persistent such as other countries mentioned in this study.

Turning to the USA, the impulse response functions show that all the shocks to corona-virus infection cases are persistent, since the number of infections keeps increasing uncontrollably. For the USA, recording new cases, either within American territory or abroad, seems to have risen equity prices due to the increase of trading volume, issued of the need to buy stocks because a later price increase is anticipated, following an expected sharp fall. As the most infected country in the globe, US number of infections kept rocketing, thus a steep increase in the number of total cases is recorded daily. This inflow of information is the reason behind the downward pattern of stock prices as a reaction to shocks coming from the number of cumulative cases. Besides, this could be explained by the sentiment of fear investors have since the authorities' reaction to contain the sickness propagation was late and ineffective.

For robustness check, we re-estimated the same models with the same variables, but with the logged returns of the stock market indices instead of the raw prices. The results show that the impulse response functions have the similar patterns as those documented with the previous estimations. But in the case of the returns, the impulse response functions are more fluctuating¹.

CONCLUSION

In December 2019, a new disease Called COVID-19 started infecting people in China, and turned into a global pandemic few months later, with new cases being recorded daily everywhere on the planet. The widespread outbreak of the highly contagious virus spread fears amongst authorities, pushing them to implement severe preventive measures that vary from one nation to another: some countries acted rapidly, by implementing lockdown and strict liberty control on its citizens such as Tunisia. Most of the European countries, especially active tourist hubs such as Italy and Spain, reacted too late. Some countries chose not to control the freedom of its citizens such as Sweden, while some other nations, such as the UK, tried the Swedish path at first, then they imposed lockdown when things worsened. These feelings of fear spread also to financial markets, as investors were also in fear of the possible consequences of the disease outbreak. Using a basic VAR model, we focused on checking whether the impact of the disease on the financial markets of several countries, notably Australia, Brazil, China, Germany, Iran, Russia, South Korea, Spain, Sweden, Tunisia and the USA is the same as its impact from a health point of view, i.e., the severity of the spreading of the disease and the following measures to contain it. The choice of the countries is based on their response to the sickness outbreak: the USA is the most affected country, with the highest number of infections and deaths. China is the place where the virus started, Sweden did not implement lockdown, Iran is the most affected country in the Middle

¹ The graphics of the robustness check were not reported for briefly concerns. Nevertheless, they are available upon request.

East, Brazil is the most affected country in Latin America, Australia is a representative of Oceania, South Korea managed to control the disease at first but then a wide outbreak was recorded, Russia is being more and more affected as the number of cases and deaths are rising and Spain is the 2nd most affected country in Europe. As for Germany and Tunisia, they are amongst the success stories when it comes to containing the virus. We give psychological arguments explaining the response of each of the stock markets, based on general behavioral traits of investors in each country.

The results suggest that the responses of the stock markets of the countries subject of the study follow the pattern of the scenario of the disease's spread within that nation. Overall, countries that took quick actions to contain the outbreak of the sickness witnessed a quick absorption of the shock coming from the number of recorded new cases and cumulative cases. By contrast, the most affected countries by the virus show evidence of persistence of the shock coming from the number of world cases or the number of cases in the country itself. Moreover, in most of the cases, the strongest reactions are those towards shocks coming from the spread of the disease within the country itself rather than the cases recorded around the globe.

These findings are useful for investors as they help them figure out the behavior of stock markets following an unusual shock such as the ones that could be caused by a global pandemic. The study of this issue and its causes enables investors to set the seeds for the elaboration of the necessary protective strategies to minimize the undesirable consequences of the shock on their portfolios. Moreover; making these investment strategies while considering the behavioral characteristics of investors during crisis periods would make the decision-making process more efficient and would ensure a better hedging quality of their portfolios. Furthermore, the findings of this study would help governments take the suitable measures to contain the effects of such unpredictable events more efficiently.

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DETERMINANTS OF CROWDFUNDING ACTIVITY AND THE ROLE OF CULTURE: A CROSS-NATIONAL ANALYSIS

Bernardino, Susana; Freitas Santos, J.

CEOS.PP, ISCAP/P.Porto, Porto, Portugal

ABSTRACT

Internet and other computer-based information system technologies have been used to develop new forms of funding mechanisms. Crowdfunding (CF) is an alternative fundraising tool that relies on a platform that allows entrepreneurs to interact directly with a large amount of potential funders. This mechanism could be attractive both for individuals who are looking for funding (crowdfunders) and for investors who are looking for application opportunities (crowdfundees). As the CF market has reached very different activity levels across the globe, this research aims to understand if national culture variations affect the dynamics of CF market activity. To attain this objective, we construct a database that includes: i) data from a survey of the Global Alternative Finance Market Benchmarking Report; ii) values by country of Hofstede's cultural dimensions; and, iii) some control variables. Based on regression analysis, the results show that CF variations across countries are influenced by national culture, specifically lower uncertainty avoidance, individualism, and long-term orientation.

Keywords: Crowdfunding; Crowdfunding market; National Culture; Hofstede's framework; cross-country study.

INTRODUCTION

Crowdfunding (CF) is a new financial tool that could support the development of new ventures by making up the required capital that is difficult to obtain due to the absence of required collaterals and previous credit records (Wahjono et al., 2016; Miglo, 2022). Many authors agreed that CF is a reliable alternative for financing start-ups and other projects (e.g. Stemler, 2013; Paschen, 2017; Jovanovic, 2019; Jelinčić, and Šveb, 2021; Chandna, 2022). For instance, Stemler (2013) refers that CF is a financial mechanism appropriate for young entrepreneurs who desire to transform their innovative ideas into businesses and cannot access finance from the traditional financial institutions. CF is based on the simple idea that a large number of people, through small individual contributions, can raise big amounts to finance other individuals and projects without the involvement of conventional financial institutions. The online CF platforms display the projects and each individual in the "crowd" of funders can choose which fundraiser to finance (Jenik et al., 2017).

In recent years, CF has received the interest of the research community not only in Europe and North America (Gajda and Mason, 2013; Jelinčić and Šveb, 2021) but also in different countries of the world, such as Philippines (Vergara, 2015), Indonesia (Achsien and Purnamasari, 2016), Sub-Saharan Africa (Hiller, 2017), Saudi Arabia (Khan and Baarmah, 2017; Gazzaz, 2019), Turkey (Sırma et al., 2019). In all these studies the topic of the national culture has been missing when the researchers try to explain or discuss the phenomena of CF. However, the behavior of entrepreneurs and funders in a country is influenced by culture (Cho and Kim, 2017; Pietro and Buttice, 2020; Shneor et al., 2021; Jelinčić, and Šveb, 2021).

The objective of this research is to determine to what extent the degree of variation of national cultural dimensions plays a role in the dynamics of the CF market in different countries.

The next section briefly defines, describes and presents the main features of CF. The following section explains the cultural dimensions of Hofstede and develops the hypotheses about the association between each of Hofstede's cultural dimensions and CF. Then, the methodology is described and the results are presented. At the end, the main conclusions are offered.

CROWDFUNDING: DEFINITION AND ACTORS

CF "refers to the efforts by entrepreneurial individuals and groups – cultural, social, and for-profit – to fund their ventures by drawing on relatively small contributions from a relatively large number of individuals using the internet, without standard financial intermediaries" (Mollick, 2014, p. 2.). According to Belleflamme, Omrani and Peitz (2015) CF is an open call to provide financial resources that mostly takes place on an Internet-based platform and links fundraisers to funders with the aim of funding a particular campaign by typically many funders. These definitions focused on: i) the process that could be initiated by a group or an individual for implementing a new venture of cultural, social or profit nature; and ii) the funds that are obtained from the crowd via online without financial intermediaries.

Some authors describe CF as an open call, essentially through the Internet, for the provision of financial resources either in the form of donation or in exchange for some form of reward and/or voting rights to support initiatives for specific purposes (e.g. Schwienbacher and Larralde, 2010; Belleflamme et al., 2014). Other scholars (e.g. Ahlers et al., 2015; Bruton et al., 2015) use CF as a label to outline an increasingly widespread form of fundraising typically via the Internet, whereby groups of people pool small individual contributions (money) to support a particular project.

The CF ecosystem could be considered a two-sided platform. On the one side (demand), we have entrepreneurs seeking funds to invest in a new venture (profit or non profit). On the other side (supply) we have a "crowd" of funders that donate or invest money to support social or business

projects. In the middle, there is a technological infrastructure that enables both actors to interact with each other according to the business model displayed by the CF platform (Cho and Kim, 2017; Jenik et al., 2017). The platform managers have at their disposal an information system that provides services to satisfy the customers' needs (payment system, data analytics, the legal groundwork for the operations, management of financial transactions or pre-selection of projects) (Löher, 2017).

NATIONAL CULTURE AND CF

Culture is a collection of values, beliefs, behaviors, habits and attitudes that differentiate societies (Griffin and Pustay, 1999). For Hayton and Cacciotti (2013, p. 713) "culture is measured as the aggregation of individual scores of values and preferences". Also, national culture could be seen as the "underlying value systems that are specific to a group or society and motivate individual to behave in a certain way, such as starting a business" (Shinnar et al., 2012, 466). These concepts of culture means that people in different societies possess different values, beliefs, behaviors, habits and attitudes towards the outside world

Hofstede (1991, 2001) has developed originally four cultural dimensions that provide an understanding of differences across cultures (power distance, individualism, masculinity, uncertainty avoidance). Later, Hofstede and Bond (1998) added a fifth dimensions that they called confucian dynamism or long-term/short-term orientation. Finally, the model was completed with a sixth dimension named indulgence (Hofstede et al., 2010).

CF and Hofstede's power distance

Power distance refers to "the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally" (Hofstede, 1991). People who possess large power distance values are accepting of gaps in power and believe that there is an order of inequality in the world and that everybody has a predetermined place. Small power distance people believe that inequality among individuals with regard to income, status and wealth should be minimized. Conversely, societies characterized by a high-power distance have strong hierarchies, possess more strict control mechanisms, and emphasize those who hold positions of power (Shinnar et al., 2012).

Based on past research (Hofstede, 2001; Hayton et al., 2002) it can be argued that in countries which have a high level of power distance, less powerful individuals may regard entrepreneurship as an area restricted only to a higher class, so they are not alert for the opportunities or may not have the necessary skills and access to resources (Celikkol et al., 2019; Shane, 1993; Rinne et al., 2012). Therefore, we would expect that:

H1: The greater the power distance of the country, the lower the CF market activity in the country.

CF and Hofstede's individualism

According to Hofstede (1991) individualism describes the relationship between the individual and the collective which prevails in a given society. It is reflected in the way people live together – for example, in nuclear families, or tribes; and it has all kinds of value implications. In highly individualistic societies, individuals look after themselves and their immediate families. In highly collectivistic societies, people are strongly integrated into cohesive in-groups.

Individualistic societies seem to facilitate entrepreneurship as they create a more favorable environment for entrepreneurship since dominant cultural values are more consistent with entrepreneurial intentions (Celikkol et al., 2019). Pietro and Buttice (2020) also reveal that individualistic societies register higher crowdfunding activity across the different typologies of CF than collectivistic societies.

Hence, we would expect that:

H2: The greater the individualistic nature of the country, the higher the CF market activity in the country.

CF and Hofstede's masculinity

Masculinity, with its inverse femininity, looks at how distinctly roles in society are defined. It is focused on material success as opposed to concern with the quality of life (Hofstede, 1991).

There are contradictory results about the association between the national cultural dimension of masculinity and entrepreneurship in cross-country studies. Some studies contend the idea that the successful entrepreneur scores high on masculinity (e.g. Hayton et al., 2002), while others provide empirical support for the negative impact of masculinity on entrepreneurship attitudes, abilities and success (Celikkol et al., 2019).

Although empirical evidence did not allow us to infer from this cultural dimension to CF, we might predict that societies with a masculine orientation will be more focused on values such as assertiveness, domination, independence, high performance, making money, and the pursuit of visible achievements. Therefore, we would expect that:

H3: The greater the masculinity of the country, the higher the CF market activity in the country.

CF and Hofstede's uncertainty avoidance

Uncertainty avoidance is defined as the extent to which members of a society feel threatened by uncertainty or unknown situations (Hofstede, 1991). People who score high along this dimension try to avoid ambiguous situations by establishing more rules and policies. In strong uncertainty avoidance societies where deviance from prescriptive norms is less tolerated, we may infer the greater intention of individuals to comply with copyright rules. Weak uncertainty avoidance societies tend to be less affected by ambiguity and more tolerant of inequality and copyright rules infringement

(Freitas Santos and Cadima Ribeiro, 2006). Some research suggests that countries characterized by a culture of low uncertainty avoidance have a higher entrepreneurial orientation (e.g. McGrath et al., 1992; Mueller and Thomas, 2000; Wennekers et al., 2007).

Hence, we would expect that:

H4: The greater the level of uncertainty avoidance of the country, the lower the CF market activity in the country.

CF and Hofstede's long term orientation

Long term orientation stands for fostering virtues oriented towards future rewards, in particular, perseverance and thrift. Its opposite pole, short-term orientation, stands for the fostering of virtues related to the past and the present, in particular, respect for tradition, preservation of face and fulfilling social obligations (Hofstede, 2001, p. 359).

The study developed by Celikkol et al. (2019) provides empirical support for the positive impact of long term orientation on entrepreneurship abilities, aspirations and success (Celikkol et al., 2019). Recently, Pietro and Buttice (2020) study indicate that lending and equity crowdfunding are more widespread in the long term than short term oriented societies as it is a challenging, risky process oriented towards future goals and the entrepreneurs tend to have aspirations, vision, optimism, foresight, and imagination. Thus, we would expect that:

H5: The countries more oriented toward long-term, will have more CF market activity in the country.

CF and Hofstede's indulgence

Indulgence stands for a society that allows relatively free gratification of basic and natural human desires related to enjoying life and having fun. On the opposite pole, restraint stands for a society that controls gratification of needs and regulates it by means of strict social norms (Hofstede et al., 2010). Since entrepreneurs have a high internal locus of control, personal value systems, desire to be economically independent, capacity for enjoyment and a pleasant personality there is a positive association between indulgence and entrepreneurial attitudes, abilities and success (Celikkol et al., 2019).

Therefore, we would expect that:

H6: The more indulgent countries will have more CF market activity in the country.

METHODOLOGY

The research aims to explain the cross-country variation in the degree of CF market activity based on variations in the national culture dimensions of different countries as measured by Hofstede's framework.

To answer the research objective and test the research hypotheses, we construct a database of three sets of data: i) measures of CF market activity; ii) measures of cultural differences among countries according to Hofstede; iii) control variables. The database compiles information about the activity of the CF market in 105 countries (dependent variable) and was used to perform a country-level analysis. We have a complete dataset for 87 countries (independent variables) and 77 countries (control variables).

Dependent variable: CF market activity

To measure the dynamics of the CF market activity, two dependent variables were considered: Volume of activity (VOL) - includes the annual average of the total volume of transactions in the different CF models for 2019 and 2020. The volume of activity, expressed in US dollars, comprises the different models of CF.

Number of platforms (NPLT) - refers to the average number of platforms that operate in a country, for the years 2019 and 2020. The variable includes domestic/locally platforms and foreign-based platforms working in a given country.

The data was collected from the second Global Alternative Finance Market Benchmarking Report (Ziegler et al., 2021).

Independent variables

The variables that measure the national culture of countries were based on the Hofstede cultural dimensions and were retrieved from <https://www.hofstede-insights.com/country-comparison/>. The data were collected by the authors and added into the database.

The following independent variables were considered: Power distance (PDI); Individualism (IND); Masculinity (MAS); Uncertainty avoidance (UAV); Long term orientation (LTO); and Indulgence (IDG).

Control variables

Considering the actors involved in CF operations (entrepreneurs/crowdfunders, investors/crowdfundees, platform operators), three distinct groups of control variables were included.

The first group comprises horizontal variables that are common to both actors and are willing to affect the CF activity. Herein, we have considered the following control variables:

- Gross domestic product per capita (GDP)- refers to the gross domestic product of a given country divided by midyear population, that is reported in current U.S. dollars;
- Individual use of Internet (INT)- refers to the percentage of the population that has used the Internet in the last 3 months, from any kind of equipment, such as a computer, mobile phone, personal digital assistant, games machine, digital TV, among others.

A second group of control variables are specific to crowdfunders and are included in the analysis to control for the factors that affect the amount of human and financial resources available at a country

level. Herein, three different variables were considered:

- Unemployment rate (UNP) - refers to the percentage of the labor force that is without work but available for and seeking employment;
- Self-employment (SEMP) - refers to the percentage of workers on total employment who hold a job where the remuneration is directly dependent upon the profits derived from the production of goods and services.
- Getting Credit Score (GCS) - refers to the total score attained by each country for getting credit, and results from the punctation attained in aspects related to access to finance, such as the strength of credit reporting systems and the effectiveness of collateral and bankruptcy laws in facilitating lending.

Thereafter, a third set of variables related with crowdfundees were included, for controlling for the availability of funds and regulations that support the CF activity:

- Gross savings (GSAV) - are calculated as gross national income less total consumption, plus net transfers and are expressed as a percentage of the GDP.
- Rule of law (RLW)- refers to the perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. The indicator ranges from approximately -2.5 to 2.5.

All the data for variables mentioned above were collected through the open data catalogue of the World Bank (<https://databank.worldbank.org/>), and added to the authors' database, with the reference year of 2019.

RESULTS

National Culture

The sample is composed of countries that exhibit very different cultural characteristics. The cultural diversity of the sample could be seen in table 1, which presents descriptive statistics for the six dimensions of Hofstede's in 105 countries, although the information for the most recent dimensions defined by Hofstede (long-term orientation and indulgence) was only available for 87 countries.

Dimension	Average	Standard deviation	Minimum	Maximum	25 Percentile	50 Percentile	75 Percentile
PDI	66,1	21,1	11	104	50	70	80
IND	38,0	22,0	6	91	20	30	55
MAS	47,5	17,9	5	100	40	47	60
UAV	66,6	22,0	8	112	50	68	86
LTO	45,12	23,6		100	25,5	41	62
ING	46,2	23,3		100	27	46	66

Table 1. *Descriptive analysis of the six dimensions of National Culture of Hofstede*

CF activity

The annual volume of CF operations included in the sample over the period in analysis was about \$1.388.457.354,81. Nevertheless, a wide heterogeneity is found across countries. The data reveals that the maximum activity is attained in the United States (\$62.569.002.990,13), while in other country, inversely, the CF market just involved \$3.935,11.

The high diversity of the CF market is also observed in the number of CF platforms that operate in each country. The analysis of the data reveals that one country has only one platform, while in the opposite side, there is one country that has about 80 active platforms. The percentile analysis further highlights that half of the countries in the sample have fewer than 90 platforms working.

	Volume of activity	Number of CF Platforms
Average	\$1.388.457.354,81	14,7
Minimum	\$3,935.11	1,0
Maximum	\$62.569.002.990,13	80,5
25 Percentile	\$1.946.813,13	4,5
50 Percentile	\$37.987.696,79	9,5
75 Percentile	\$314.013.784,04	18,0

Table 2. *Descriptive analysis of the CF market activity*

Control variables

The analysis of descriptive statistics indicates a large heterogeneity of the countries in the sample, as reflected in the values observed in the control variables of the study (Table 3).

Control variable	N	Average	Standard Deviation	Minimum	Maximum	25 Percentile	50 Percentile	75 Percentile
GDP	104	20.417,59	22.728,5	506,6	113.218,7	4.227,2	9.914,9	32.264,4
INT	90	70,02	23,9	12,9	99,5	59,3	76,0	87,8
UNP	105	6,6	4,6	0,7	28,5	3,6	5,0	8,4
SEMP	105	31,4	21,9	1,8	90,4	13,8	25,2	44,1
GCS	105	12,3	4,1	0,0	20,0	9,0	13,0	15,0
GSAV	99	23,0	8,9	-3,5	43,8	16,6	23,0	29,0
RLW	105	0,3	1,0	-2,3	2,1	-0,4	0,0	1,1

Table 3. *Descriptive analysis of the control variables*

Multivariate analysis

To assess the impact of culture variations on the CF market activity, a linear ordinary least square regression model was used. Two different dependent variables were considered: (i) the annual volume of CF activity; and (ii) the number of active CF platforms working in the country. For each of these variables, four different models were considered. The first model, focuses exclusively on Hofstede's dimensions of national culture, without considering any type of control variables. Model 2 controls the CF activity and national culture for the country income and information and communication technologies conditions, which are common to the supply and demand side of the CF market. Model 3 controls the CF market activity and the national culture characteristics for the

availability of human and financial resources for crowdfundees. Finally, Model 4 included the control variables related to crowdfunders' availability of funds and regulations.

The results of the multivariate regression are summarized in table 4.

	Volume of Activity				Number of Platforms			
	1	2	3	4	1	2	3	4
Constant	7230529894,56 **	7735482281,18 **	7230529894,56 **	7583154235,32 **	15,066 **	20,2001 ***	15,066 **	20,853 ***
PDI	-0,020	-0,032	-0,020	-0,019	0,077	0,156	0,098	0,13
IND	0,140	0,153	0,140	0,132	0,283 ***	0,314 ***	0,283 ***	0,304 ***
MAS	0,130	0,145	0,130	0,134	0,144	0,149	0,125	0,127
UAV	-0,222 **	-0,229 **	-0,222 **	-0,230 **	-0,273 ***	-0,249 **	-0,273 ***	-0,257 ***
LTO	0,086	0,069	0,086	0,072	0,218 **	0,199	0,218 **	0,193
ING	-0,003	0,005	-0,003	0,013	0,121	-0,028	0,129	0,013
GDP		0,089				-0,094		
INT		0,084				0,008		
UNP			-0,047				-0,061	
SEMP			-0,089				0,172	
GCS			0,128				0,122	
GSAV				0,024				0,069
RLW				0,03				0,035
R2	4,9%	5,2%	4,9%	5,3%	24,2%	19,5%	24,2%	20,0%
Adj R2	3,8%	4,0%	3,8%	4,2%	21,4%	17,3%	21,4%	18,1%
F	4,419 **	4,197**	4,419 **	4,643 **	4,891**	5,491 **	4,891 **	6,304 **
N	87	77	87	85	87	77	87	85

* Significant at the 0.10 level;** Significant at the 0.05 level;***Significant at the 0.01 level.

Table 4. *Multiple regression analysis*

The analysis of Table 4 reveals that countries exhibiting a lower score on uncertainty avoidance are those that have achieved the highest volume of transactions in the CF market (Model 1). The result is statistically significant at the 5% level. The standardised beta's negative coefficient indicates that countries with a higher preference for structured situations have a less dynamic CF market. Conversely, countries characterized by lower uncertainty avoidance have achieved a higher volume of operations concerning the CF activity. The other dimensions of national culture were not found to be capable of influencing the volume of CF operations at a national level. The model fit statistics (model 1) indicate that uncertainty avoidance explains about 3,8% of cross-country variations in CF activity, and the model is statistically significant ($\alpha=0,05$).

In the following models, we have controlled the results for the countries' income and access to information and communication technologies (model 2), the factors that affect the amount of human and financial resources available (model 3) and the availability of funds and regulations to support the CF activity (Model 4). The control variables included in the analysis in the different models were not statistically significant and were not able to constraint the volume of operations performed in the CF

market, but reinforce that the results attained are robust. Thus, the analysis reveals that the countries' low uncertainty avoidance positively impacts the dynamics of CF, regardless of the favourability of the existing economic context at a national level.

By analyzing the number of active platforms across countries (Model 1), we found that three national culture dimensions were statistically significant: masculinity ($\alpha=0,01$), uncertainty avoidance ($\alpha=0,01$) and long term orientation ($\alpha=0,05$). A positive coefficient is found between the number of existing platforms and the level of individualism of the countries as well as long term orientation. Conversely, a negative coefficient is observed concerning uncertainty avoidance. Accordingly, the investigation indicates that the highest dynamism in the number of existing platforms is attained in countries exhibiting a more individualistic-oriented culture (IND), embedded in a forward-looking vision (LTO) and more willing to accept unstructured situations (UAV).

Conjointly, these three national culture dimensions are able to explain about 21,9% of the variations across countries on the number of existing CF platforms. ($R^2= 24,1\%$, adjusted $R^2= 21,4\%$). This result is found even after controlling for the amount of human and financial resources available (Model 3). When controlling for the impact of income and access of information and communication technologies (Model 2) or the availability of funds and regulations that support the CF activity (Model 4), we observe that only two Hofstede national cultural dimensions are statistically significant: individualism and uncertainty avoidance. The sign and intensity of the coefficient are similar to those identified in the model 1 and 3, which reinforce the robustness of the results attained. Once again, the control variables were not found to be able to explain the differences in the number of CF platforms that are active in the different countries in the analysis.

CONCLUSION

Crowdfunding is recognized as an important fundraising tool, offering a huge potential to individuals seeking funds to start an entrepreneurial activity. Although the potential that CF involves, different nations exhibit very different patterns of development in the CF market.

Based on a multinational study, this investigation aims to bring new insights to our knowledge about CF, by studying the variations in the market dynamics among countries in accordance with the national culture, measured through the dimensions defined by Hofstede.

The findings achieved reveal that the use of CF is not culture free, but rather embedded in the country's cultural context. Indeed, the values, beliefs and behaviours that are predominant in a given country are able to constraint the willingness of different economic agents to adhere to this fundraising tool. Thus, national characteristics are able to constrain the implementation and use of CF platforms across countries. More specifically, the findings highlight the negative relevance of

uncertainty avoidance on the volume of operations achieved in the CF market at a national level. Furthermore, the number of platforms that have been established and are active in the various countries is also (negatively) influenced by uncertainty avoidance and positively shaped by the countries' individualism and long-term orientation.

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ISSUES CONCERNING THE RELATIONSHIP BETWEEN ECONOMIC AND LEGAL LAWS

Cărcăle, Victor-Andrei

“Ștefan cel Mare” University, Suceava, Romania

ABSTRACT

In the present communication, we only aimed at establishing some starting points for further investigations and discussions, based on an analysis of the opinions on some issues related to the relationship between economic laws and legal laws. The precise definition of the latter is necessary to establish the exact nature of the influence exerted on the business environment by the legal side. In addition, we also mention the fact that criminal law has a subsidiary role among the means of regulating economic life, constituting the *ultima ratio*, i.e., the last solution that could be used to repress acts that, by committing offences, harm the social values protected by criminal law, thus resorting to the most severe forms of legal coercion. Research into these issues is a practical necessity.

Keywords: report, correlation, economic laws, legal laws, business environment.

INTRODUCTION

It is well known that social relations in the economic sphere, due both to the profound changes in the development of national economies and to the continuous progress made by each branch of the national economy, have brought about essential changes not only in the organization of the whole of social life but also in the improvement of the legal framework regulating these processes.

Today, the complexity of social relations in the economic sphere has also led to profound changes in legal structures, imposing new forms and methods for regulating economic processes; the main branches of law have become truly economic, which has also led some authors to suggest that these processes should be analyzed within the framework of new branches of law, e.g., economic law, commercial law, business law, etc. In this way, the legal protection of economic processes is tending to abandon traditional models and is taking place not only in civil law, administrative and labour law but also in specific branches of law such as economic, business, or commercial law. Moreover, changes have also occurred in the protection of economic processes through criminal law. Although criminal law plays a secondary role in regulating economic and business life (Eminescu, 1976), being the last resort compared with the specific means of protecting these social relations, which are mainly civil law, serious forms of aggression against economic relations can only be combated using criminal law, thus

resorting to the most severe forms of legal coercion (Antoniou, 2001). Here, we recall, by way of example, that ensuring the free movement of goods, persons and services, a fundamental objective of the European Union, could not be achieved without also using the criminal law framework, even if we refer only to the need to criminalize and punish acts of discrimination based on nationality, sex, religion or race in economic or employment relations (Antoniou, 2002).

Similarly, the criminal law is inevitably involved in repressing acts of hindering the movement of goods through customs, tax, administrative obstacles, etc., obstacles which, in certain cases, must also be repressed through the criminal law (Delmas, 1993). The criminal law is also called upon to intervene to repress serious acts of aggression against the financial interests of the European Union. Since it has become clear that there is large-scale fraud, both in terms of the way European funds are spent and the collection of revenue, the Union and the European bodies have asked the Member States to take effective measures to criminalize and punish such offences under national law. This new type of crime has therefore prompted a specific response from the Member States and, at the same time, studies on the phenomenon of business crime have intensified at both national and European levels. In this problem, Giuseppe Bettiol points out that criminal law protects social values, in other words, it protects legal assets and interests. Similarly, F. Mantovani argues that criminal law must protect the essential goods of any organized society, part of the common heritage of human civilization, without whose protection social coexistence would not be possible. This author also makes an interesting division when he refers to criminal law, namely into the criminal law of oppression, the criminal law of privilege and the criminal law of freedom, each with its specific features, including the specific purposes of criminal law (Mantovani, 1992). Manzini also mentions the same, stressing that the purpose of criminal law would be to ensure and guarantee the fundamental and indispensable conditions of life in common, implicitly to ensure the maintenance and reintegration of the general legal order through the provision and application of criminal sanctions (Manzini, 1933).

However, 'to receive a legal sanction, economic acts must, in each case, take on a legal form'. For example, the collection of debt has often been a matter of life and death for the creditor, who in turn had to pay a debt with the money collected. How many creditors have not gone bankrupt because they were unable to collect the sums owed to them, and were thus forced to stop paying? The increase in credit transactions today and the emergence of new forms of payment: cheques, bills of exchange, promissory notes, etc. have led to the emergence of more operational means of recovering debts and enforcing payment against bad debtors. However, while the means of recovering debts between economic operators have become more difficult, credit transactions between private individuals subject to ordinary law (recovery through the courts) have always been extremely cumbersome, even involving penalties for each day's delay, especially when the creditor has not had the foresight to

provide real (e.g., mortgage) or personal security for his claim. The difficulties of recovery become particularly great when the creditor does not even have a receipt in legal form or a receipt at all, trusting his debtor unwisely.

The desperation of the creditor in this situation and the bad faith of the debtor have led to the emergence in society of people who, in return for a substantial fee, undertake to recover debts plus interest from the bad debtor.

We have in mind the debtor who in bad faith refuses to pay his debt even though he has the means of payment. If the debtor is ruined in turn, even though he would be willing to pay his debts, there is no other way of recovery than to obtain a writ of execution through the courts (if the existence of the debt can be legally proved), and the creditor will have to wait until the debt is time-barred before the debtor acquires the means of payment. These people (usually acting in teams of 2 or 3 individuals) do not, of course, use legal means of recovering debts but illegal means, e.g., death threats, torture, pressure on wives and children (kidnapping, beatings, maiming, etc.), attacks on movable or immovable property (theft, destruction, etc.). One problem that arises here is: what are the legal possibilities for protecting the threatened person in such situations?

Before answering this question, it seems to us that another question should be answered, namely whether the defaulting debtor is entitled to protection against such threats, which he has in some way provoked by causing, through non-payment of the debt, recourse to such harsh means of enforcing the debt.

In our opinion, there can only be one answer: the bad debtor, even in bad faith, must be protected by the authorities against aggression by the creditor or his representatives. The creditor can only threaten the debtor with the use of legal means of recovery, but he cannot threaten him with death, bodily harm, destruction of property, etc., and still, less can he resort to debt collectors who, in exchange for a reward, threaten or use violence against the debtor and his family.

By using these methods, both the creditor and those acting on his behalf are acting outside the law, justifying the debtor's request to the authorities to take measures to hold the culprits liable and protect him from such attacks. This also answers the first question.

A debtor who is subject to physical or mental coercion may use legal means to seek the protection of the authorities. The question arises: what if the authorities do not act promptly or are indifferent, poorly organized or corrupt, while the pressure on the debtor becomes stronger and stronger, and the debt collectors are imminent? It seems to us that in this case two the solutions already outlined are needed. A debtor who is subjected to coercion with serious implications, impossible to remove in any other way, on himself or his family or property is entitled to fight back against the

coercer in self-defense and to neutralize him even before the persons carrying out the coercion have carried out the threats.

Recourse to debt collectors as instruments cannot be legitimate in any situation; either the debtor is evading payment of the debt in bad faith (in which case the creditor is also at fault for allowing himself to be deceived by the debtor), or he is in good faith but does not have the necessary means of payment. It is also irrelevant whether the debtor could immediately pay the debt, as the failure to do so does not in any way legitimize the use of duress. The court will assess the threats' seriousness according to the proportion between the seriousness of the attack and the debtor's response. Such a solution, in our opinion, is designed to discourage the activity of debt collectors, who become aware that any coercion of the debtor can turn against them, and there is a risk of a response commensurate with their courage that could legitimately neutralize the debt collector himself (Munoz Conde, Garcia Aran, 2002).

An interesting question is what offences can be committed in this area. Suffice it to cite such practices as theft, robbery, breach of trust, fraudulent management, fraud, embezzlement and concealment.

Other offences of interest to managers and professionals in the private sector could be the offence of abuse of office against personal interests, abuse of office by restricting rights, abuse of office against the public interest, negligence in office and misconduct, and offences which are committed by officials in the private sector.

At the same time, the criminal law also provides for several offences which relate to the regime established by law for certain economic activities. These offences include illegal obtaining of funds, embezzlement of funds, disclosure of secret or non-public information, etc. Therefore, only acts which hinder social development, and not acts which help to achieve social relations, can constitute offences, both in terms of the law and the application of criminal law. This is why Cesare Beccaria, who stressed, as early as 1764, that "the true measure of crime is the damage done to the nation" (Beccaria, 2007), means that an economic analysis in which the criminal act is related to the loss of wealth that it generates, both individually and collectively, and to the capacity of the sanctioning rule and the punishment applied based on this rule to restore the welfare damaged by the offender cannot be wrong. Indeed, some authors (Calabresi, Melamed, 1972) taking theft as an example of a typical offence against property, have raised the question of imposing a penalty on a person who has caused damage by such an act which exceeds the value of the damage caused. They argue that the need for a higher penalty cannot be explained solely by the fact that the probability of a perpetrator being punished is less than 1. The applicable penalty should exceed the value of the damage caused even when the probability of criminal liability is equal to 1, making it a certainty because the application of a penalty

equal to the objectively determined value of the right infringed would mean transforming "rights" based on the property regime into "rights" based on the liability regime (Cărmădaru, 2021).

Moreover, the criminological literature has shown that the development of an integrative theory to explain economic crime, we believe, can be based on two indispensable elements: motivation and opportunity. Motivation is viewed from the angle of the neutralization process, deterrence, persuasion, imitation, the rationality of the choice of crimes and also cultures, subcultures and anomie. Opportunity raises questions of structure, organization, technology and pre-criminal situation.

Bearing these ideas in mind, the implementation of measures is not possible without a just policy of the governing bodies of the state, without legislation and its just application. Legal science must therefore reveal and show the mechanism by which the law influences the economy, and in this way help to clarify the meaning of the legal rule, its close organic connection with the economy and state policy, and its role, which is a guarantee that this support will be fairly translated into practice. In essence, however, what we are interested in is not the degree of effectiveness of each of the penalties in current legislation, but the general direction in which the system can be improved, so that future criminal legislation can establish a model of solutions that will ensure that economic obligations are met in the best possible conditions, to establish a relationship between the present situation and a foreseeable future (Cosmovici, Gheciu, 1981).

Another issue that needs to be considered about the economic field is closely linked to the meaning we attribute to the content of this concept, and its scope about other related notions. This is why research on this subject cannot be carried out without clarifying these concepts and defining the specific content of the concept about related concepts such as economics and politics and economic and legal laws. This confusion not only makes it difficult to understand economic laws and to use them but also distorts the role and importance of the state and law.

CRIMINAL LAW AND ECONOMIC SPHERE

The economic sphere, as is well known, includes a wider sphere of relations that encompasses both the sphere of production and the sphere of trade, transport, business, etc. The economic sphere would therefore include all activities that ensure the production of material goods, trade, transport and the distribution of the profits obtained from these activities. From this, we conclude that economic law covers all legal relations that arise and develop in connection with commercial activity (commercial law), transport (transport law), finance (financial law), business (business law) and other activities of a similar nature (Cosmovici, Gheciu, 1981).

In the same vein, other authors (Farjat, 1971) have argued that economic law designates a set of rules that enshrine state intervention in the economy, as an antithesis to the liberal legal model. Hence,

it could be argued that economic law is the expression of economic dirigisme, evolving only under these conditions (Gavalda and Parleani, 1988).

Such a demonstration (Oprișan, 1976) would no doubt justify that there is a relationship between these two laws (economic and legal); this relationship is given by the fact that, in the controversy over the autonomy of economic law, one aspect is that of the subjects of economic law. From this point of view, what concerns the subject of legal persons must, to a certain extent, be part of economic law. In this case, we propose that the future economic code should also include rules on the 'common economic powers' of this category of state bodies, without, however, calling into question the usefulness of such a law, which would represent progress in terms of both legislative technique and stability. Given the requirements of practical life, we are convinced of the need to adopt an economic code.

Along these lines, it has been rightly stated in the legal literature that, unlike the concept of economy, the notion of business implies an economic activity (financial, commercial), with a strong speculative character, the dominant purpose being not to produce goods or to make them available to consumers, but to make a profit. The concept of business could sometimes be broader than economic, for example, when it concerns business in the field of sport or the exercise of a profession. The concept of business as a profit-making activity is used not only in the case of lawful activities but also in the case of underground, unlawful activities where the desire for gain is seen to be stronger than respect for the law.

In conjunction with this understanding of the concept of business, business law will also have specific, multidisciplinary content, albeit close to economic law, financial law and customs law, but also different from them. It follows from the above that social relations in the sphere of business will bear the imprint both of the rules governing certain speculative activities and of those governing a particular segment of economic activity. This means that the content of social relations will relate both to the nature of the activity which is the source of profit and to the framework in which speculative activity takes place. In this way, speculative activity occurs in each of the areas that form part of the economic sphere. Far from having clarified all the aspects of this issue, we believe, however, that the decisive criterion for differentiating the concept of business is not only the speculative activity but also the economic framework in which business is usually conducted.

At the same time, we note that both in Romanian (Mirea, 1996) and foreign literature (Cozian and Nevandier, 1992) the notion of company law is also used. In our opinion, the legal rules regulating the activity of companies refer to the social and patrimonial relations, in which the relations of speculative exploitation of the activity are predominant. We could therefore consider that these rules constitute a separate branch of business law. Thus, business law regulates the social relations which

concern the establishment, organization, operation, modification, dissolution and liquidation of a company. In contrast, economic law regulates social relations relating to the organization of the economic system in a legal form and the conduct of economic activity which produces value.

From here, we note that the focus is on the nature of the activity carried out, the relationship between business law and economic law seems to be that of the part (business law) to the whole (economic law), but not in a quantitative, arithmetical sense, but a qualitative one (Căpățână and Constantinescu, 1979). Any economic operation, if it can be exploited speculatively, succeeds in becoming a business in the sense of the capacity to create profits (Stefanescu, 2000); it thus falls within the scope of business law (Cărpenaru, 1993). The specific features of economic activity and the legal relationships it involves with other human activities have therefore led to the need to recognize the originality and, implicitly, the autonomy of economic and business law. In this way, business law emerged to meet practical requirements, its autonomy being explained by the need to regulate the legal activity of businesses producing goods and providing services (Turcu, 1992).

Moreover, it has been pointed out that business law has a wider field of activity, encompassing aspects of public law (state intervention in the economy), tax law (company management), labour law and even civil law. Moreover, it has been shown that the subject matter of business law consists of social relations governing business as a commercial activity, goodwill, commercial auxiliaries, competition in business, consumer protection and commercial advertising.

CRIMINAL BUSINESS LAW

A final and equally controversial issue is the question of the existence of criminal business law.

Some authors (Véron, 1999) have responded that there is an autonomous criminal law of business. It has been argued that contemporary, innovative or revolutionary aspects of criminal law influence the legal regime of the most diverse offences, leading to the formation of new branches of law. However, the theory of the autonomy of business criminal law presupposes determining its content, which is still a matter of debate.

According to other authors, to determine the exact content of this branch, the question should be answered as to whether business criminal law should be separated from economic criminal law and consumer criminal law and, if so, what the limits of each of these branches are.

In the same concern to separate business criminal law from other branches of law, in foreign doctrine (Jeandidier, 2003), many authors include in the content of business criminal law only basic, so-called common law and corporate criminal law offences. All other offences, although related to business, are not included in business criminal law. Thus, there is no business without advertising, and advertising firms are the lifeblood of business.

At the same time, there is no business today without information technology, and information technology companies have an important place in the business world. Moreover, there is no business without credit and credit companies, which are in great demand for launching businesses (Lefterache, 1998).

Such a demonstration would justify including the criminal law of advertising, IT and credit in the criminal law of business. For example, the author Michel Véron deals with the common law offences provided for in the French Criminal Code as applied to business, company criminal law and the main business offences, e.g., bank fraud and other related offences, stock exchange offences, offences relating to cheques and payment and pension cards, embezzlement, etc.

According to other authors (Jeandidier, 2003), business criminal law would cover financial criminal law and economic criminal law, which seems questionable, especially as regards the differentiation between business criminal law and economic criminal law (Coca-Cozma, 1974).

Economic criminal law could be defined, in a certain way, as the set of repressive rules intended to penalize, in the context of a state's economic policy, violations of the rules by which the state intends to regulate the production, distribution and consumption of goods and services, a definition which would highlight the public interest protected and the role of the state in regulating economic processes. It is known that such a definition would correspond more to centralized economies.

CONCLUSIONS

In a liberal economy, the economy is characterized by the free development of economic relations based on competition and private initiative, which takes place within the enterprise as an economic and social organism, through the autonomous organization of activities with the help of factors of production, by the entrepreneur and at his own risk, to produce goods and services for exchange to obtain a profit.

In such a view, economic criminal law would be the subset of legal rules governing relations for the protection of the economic order (Vitu, 1961), relations formed around and thanks to the enterprise, incriminating, under specific sanctions called penalties, acts which affect relations between natural or legal persons who contribute to the establishment and running of the enterprise, relations of collaboration or competition, relations with public authorities.

It follows from the above that economic criminal law presupposes an economy in which, to varying degrees (Giudicelli-Delage, 1999), the State intervenes in economic life, whereas business law is characterized exclusively by the protection of private interests, i.e., the social relations between persons who help to create and carry out profit-making activities. Since private interests take on particularly

complex forms, just like profit-making activities, criminal business law is multidisciplinary, a feature which stems from the multitude of social relationships (Delmas, 1990), regulated (relationships relating to the creation and operation of an enterprise, the management of an enterprise's assets, cooperation contracts with other enterprises, competitive relations, etc.) (Cărpenaru, 1993).

In such an understanding, business law would appear as a material component of economic processes, the enterprise is understood as a way of autonomously organizing an activity with the help of factors of production, by the entrepreneur and at his own risk, to produce goods and services, intended for exchange, all these activities being carried out to obtain as much profit as possible.

The two terms, business crime and economic crime are therefore two sides of the same complex criminal phenomenon, and the damage to the economic system can be seen both from the point of view of the private interest (business crime) and the general interest (economic crime). Given the above, we propose that both the concept of business crime and that of economic crime should be better clarified in our criminal legislation and doctrine.

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DOES GENDER MATTER FOR ORGANIZATIONAL RESILIENCE? EXPLORING THE ROLE OF WOMEN IN ITALIAN FAMILY WINERIES

Casprini, Elena; Pucci, Tommaso; Zanni, Lorenzo

Department of Business and Law, University of Siena, Siena, Italy

ABSTRACT

Moving from the regulatory focus theory and focusing on family firms, this paper looks at the role of CEO gender for reaching organizational resilience and how women-led firms face unexpected events. The data are collected from a sample of 43 Italian family wineries and 4 in-depth interviews conducted over 3 case studies. Results show that women-led and men-led family wineries differ in their growth strategies and perception about organizational resilience dimensions. The three illustrative case studies shed light on specific aspects of organizational crisis and on the peculiar attention that women posit to social and cultural values.

Keywords: organizational resilience; wine; gender; growth; sustainability

INTRODUCTION

Two big topics are nowadays attracting the core interest of both researchers and policy makers: gender equality and organizational resilience. The former has an old tradition in management and organizational studies that have emphasized three main issues: the difficulties of women career (Afiouni and Karam 2019; Cesaroni and Sentuti 2014), the impact of gender diversity on performance (Bae and Skaggs 2019; Chadwick and Dawson 2018; Danes et al. 2007), and the growth strategies adopted (Reichborn-Kjennerud and Svare 2014). The latter has acquired momentum due to the recent pandemic, albeit it has been widely explored as a very nuanced concept that is still difficult to measure and to predict (Conz and Magnani 2020; Linnenluecke 2017).

This paper links these two topics exploring the following research questions: *what is the role of CEO gender for reaching organizational resilience? how women-led businesses face unexpected events?*

In doing so, it focuses on family firms as the setting of interest due to the fact that family firms may rely on unique resources and also have different goals (Berrone et al. 2012; Habbershon and Williams 1999) that could shape CEO's strategic decisions and behaviours. The underlying idea is that of investigating how family firms managed by a man rather than a woman behave and make decisions, and how woman-led businesses impact family firms in overcoming unexpected events. An exploratory analysis has been conducted via ad hoc structured questionnaires and in-depth interviews. As a part of a broader research project, ad hoc questionnaires have been administered to a small sample of 43 family

firms in order to grasp preliminary insights. Then, 4 in depth interviews have been conducted to 3 family businesses (in 1 case, both the old and new generation were interviewed).

The paper focuses on the specific setting of wineries. There are specific sectors, such as forestry (Johansson et al. 2020) and construction, that seem to be male dominated. Amongst them we must include the wine sector (Reichborn-Kjennerud and Svare 2014). According to a recent report by an Italian association (Unioncamere 2020), female are just over a quarter among the entrepreneurs of the agricultural sector, but the role of women in Italian wineries is becoming more and more "visible": Camilla Lunelli - the only woman of the Lunelli cousins of Cantine Ferrari and responsible for communication; Albiera Antinori, Priscilla Incisa and Cinzia Merli (at the top of the Consortium for the Protection of Bolgheri and Sassicaia Doc wines); José Rallo (at the helm, together with his brother Alberto, of the Sicilian Donnafugata and, from 2020, on the board of directors of ICE - Agency for the promotion abroad and the internationalization of Italian companies). Also, some specialized press as Wine News has recently highlighted how women are increasingly taking the field in the wine sector as wine influencers, citing examples such as Anais Cancino, Francesca Negri, Eleonora Galimberti and the "wine angels" (a project with 7 women sommeliers born from the perception that the world of wine is still quite 'male chauvinist').

The paper is structured as follows. The next section presents a review of the literature on the role of women in management research and the concept of organizational resilience. The third section provides a description of the 43 questionnaires collected and of the three cases analysed. Then, the fourth section provides initial descriptive statistics about the impact of CEO gender on organizational resilience, with also a zoom into the growth decisions. Then, we describe the three illustrative case studies. A discussion and conclusion section indicates the contributions to extant research, the limitations of our study and the avenue for the future.

LITERATURE REVIEW

Women in management research

The literature about gender is quite old and established. In the following, we describe three main streams of research that appear to be relevant to our paper: the impact of women's touch on organizational performance, the career development of women in firms, and the nascent research of women in family firms.

For what concerns the women's touch on organizational performance we identified two core topics. A first aspect is related to the type of values pursued by men and women. A study conducted by Cliff (1998) on Canadian small business owners shows that men and women have different thresholds in terms of size growth (smaller for women than for men), albeit they both search for growth. Women

also tend to focus on specific types of growth. For example, (Reichborn-Kjennerud and Svare 2014) notice that male and female entrepreneurs differ in terms of ambitions: women pay more attention to secure jobs for employees rather than search to expand (as men do). There is also evidence, from a post-materialist perspective, that social value goals seem to be preferred by women while economic value creation by men (Hechavarría et al. 2017). A second aspect is related to the way women manage firms and how this could influence performance. For example, Danes et al. (2007) investigate whether differences exist between women-owned and men-owned family firms with respect to the impact of innovation practices, management practices, response to disruption on gross revenue. They found that gender has a moderating effect, but only for specific aspects such as personnel management (a practice within management ones) and donating time to business (within the disruption responses), among others.

A second stream of research looks at the career development of women, especially with respect to their entrance in the boardroom (i.e. breaking the glass ceiling). Literature has pointed out at least three reasons why women who broke the glass ceiling might be “similar” to men. These have been summarized by (Adams and Funk 2012): *“first, the evidence that women often try to avoid competitive environments (e.g., Niederle et al. 2008) suggests that women who pursue leadership positions may be very similar to men. Second, legal evidence that women were denied promotion because they acted too “feminine” (Branson 2006) suggests that only women who think like men may be promoted by their male colleagues. Third, women in a predominantly male environment may adapt their behavior so that gender differences disappear”* (pp. 219-220). More recently, some authors have talked about the “glass cliff” that refers to women who are more likely to become leaders when there is a higher risk of negative consequences (Sabharwal 2015). Others have pointed out some specific idiosyncrasies that women have, especially with respect to the body, that could make them difficult to reach leadership roles. For example, Bryant and Garnham (2014) have analysed women in wineries analysing how women working bodies are thought with respect to the norms that have been established in the more masculine wine industry. The problem refers to gendered worker at different occupational positions and they noticed that power positions are occupied by men, thus advancing *“a gendered inequality regimen within a multinational wine organization”* (Bryant and Garnham 2014, 423).

The third aspect we would like to shed light on is the role of women in family firms. This topic has caught attention in the last decade (Campopiano et al. 2017). Family firms are an interesting setting where to analyse the above-mentioned aspects (impact on performance and career development path) since in these settings the role of gender is somehow subordinated to the status of being a family member. According to a literature review by Campopiano et al. (2017), most of research has been conducted on the women’s entrepreneurial entry (e.g. Hytti et al. 2017) and women presence in family

firms, while lesser attention has been posed to women succession and women's career dynamics (Calabrò et al. 2018; Curimbaba 2002; Otten-Pappas 2013). The same authors propose to explore how the women's involvement in family firms affect the financial-socioemotional wealth trade-off.

Organizational resilience

The concept of resilience has been applied to multiple levels such as the individual (Sinclair and Wallston 2004), organization (Hamel and Välikangas 2003), ecosystems (Roundy et al. 2017), and system levels (Hosseini et al. 2016). This paper focuses on organizational resilience that is used to "describe the inherent characteristics of those organizations that are able to respond more quickly, faster or develop more unusual ways of doing business under stress than other" (Linnenluecke 2017, 4). Despite the narrower setting of this research, literature on the topic is still very fragmented as also emphasised by the several literature reviews and conceptualizations provided in the last few years (Conz and Magnani 2020; Ducheck 2020; Iftikhar et al. 2021; Linnenluecke 2017). Indeed, literature has emphasised the dynamic nature of organizational resilience, highlighting that it is an attribute that the firm has before, during and after an event occurs (Conz and Magnani 2020). This implies to clarify clearly when resilience is investigated. Resilience is a multifaceted concept that comprises a blend among structural (organizational design and power), relational and psychological aspects (Witmer 2019). A second aspect is related to the fact that organizational resilience is difficult to measure (Linnenluecke 2017; Santoro et al. 2021). Some scholars look at it on a continuum between robustness and adaptability (Buliga et al. 2016). A final aspect is related to the antecedents of organizational resilience (Iftikhar et al. 2021; Pal et al. 2014), that are also individual-related. In their study on business model innovation as a response to turbulent environments, (Buliga et al. 2016) consider the importance of individual decision-makers drawing from a regulatory focus theory. This theory "*explains the preference of individuals to pursue and seize opportunities or to eliminate possible mistakes and errors*" (Buliga et al. 2016, 649).

Moving from the regulatory focus theory, this paper looks at the impact of gender on organizational resilience. Little contributions exist on the topic of gender influence on organizational resilience, while most of the attention has been posed to the impact of gender on financial performance. Some scholars have advanced a feminist lens, showing that it is important to mitigate the normative masculine gendered constructions while also including feminine practices (e.g. shared power and decentralization) (Witmer 2019). We think that organizational resilience is not only perceived differently from women and men, but also that women and men intervene on factors influencing organizational resilience, such as business model and human resource management (Kim 2020), in a different manner.

METHODOLOGY

We adopted a twofold methodology with an exploratory intent. Focusing on the Italian wine sector, this study begins from a preliminary investigation on a sample of 43 respondents who belong to the top management team of family firms. In particular, 18 are the CEO of the firm, 7 belongs to the board of directors, 18 are managers. We administered a questionnaire to explore potential differences between women-led and men-led wineries with respect to organizational resilience.

Some descriptive statistics are provided in Table 1 below. We notice that wineries led by women tend to be smaller than those led by men, both in terms of tenured and not tenured employees.

	mean tenured employees (total)	mean tenured employees (women)	mean not tenured employees (total)	mean not tenured employees (women)
CEO woman	10.20	4.75	5.76	2.91
CEO man	33.28	12.61	13.06	3.07
mean (all wineries)	19.86	8.12	8.81	2.97

Table 1. *Mean of employees within the sample (n=43)*

A qualitative analysis over three case studies follows in understanding how *woman-led businesses face unexpected events*. The cases are mainly illustrative in purpose (Siggelkow 2007) and were theoretically identified based on successful examples of women-led wineries within the broader Italian Association of Women of Wine. The President of this association and another expert working on another wine association recommended to the authors some cases of successful women-led wineries.

Data were collected via face-to-face or online interviews to the CEO of the winery. In one case, a tour of the winery was also done, and some questions were asked to one employee who guided one of the authors in doing the tour. In another case, two generations were interviewed. Additional data was collected from the press. The interviewees were semi-structured since the core idea was to understand the role of women in the winery, also analysing the broader concept of gender equality within the wine sector. Therefore, we introduced three main topics: (1) description about the interviewee and career development within the winery; (2) the critical events faced; (3) main obstacles faced by and contribution of being a woman in the wine sector. Each interviewee was recorded with the permission of the interviewee and then transcribed. At the moment, the three cases are left anonymous.

FINDINGS

Exploratory analysis of the questionnaires

Figure 1 suggests that in family businesses where the CEO is a man, the role of women in taking strategic decisions is still very important. When the CEO is a man, strategic decisions are taken by a woman in 17% of the cases, while when the CEO is a woman, only in 4% of the cases strategic decisions

are taken by men. It seems that women tend to informally govern the winery even if formal decisions are taken by a man.

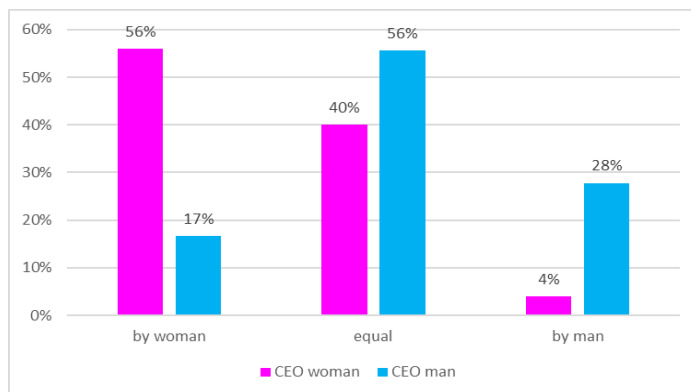


Figure 1. *Strategic decisions and CEO gender (n=43)*

Figure 2 shows that respondents of wineries where the CEO is a woman, tend to perceive the performance of their firm “above the average”, much more than when the CEO is a man. These results are aligned with previous research that see that women have lower threshold of growth (Cliff 1998).

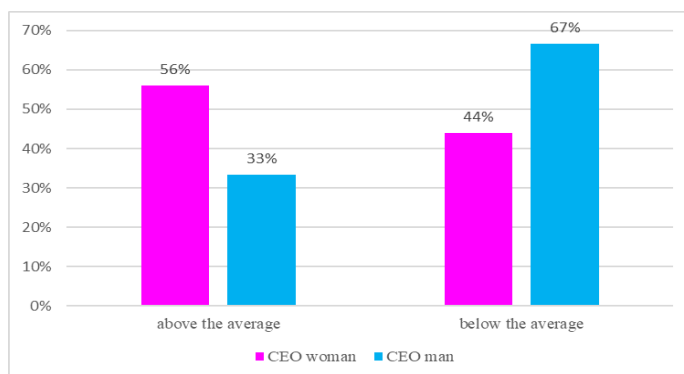


Figure 2. *Perceived performance by CEO gender (n=43)*

We also looked at the different strategies adopted to grow. As we can see from Table 2, in the case of women-led wineries, the strategies adopted to growth are less related to the redefinition of the layout and the investments in digitization or equipment renewal, while more attention is given to product innovation and human resource development as well as investments in marketing activities. Interestingly, women-led wineries seem to be more open to external financing and new financing resources. This is particularly interesting from a socioemotional perspective of the family firm, as searching for debt capital is not a usual strategy that family businesses pursue. Moreover, it is quite counterintuitive finding that women-led wineries are more willing to search for external financing than men-led ones. Previous studies have in fact found that women tend to rely on a smaller amount of financial debt and equity (Coleman and Robb 2009).

	CEO woman	Norm CEOw	CEO man	Norm CEOm	Difference (norm CEOw-norm CEOm)
Redesign the layout	2.48	-1.59	3.67	-0.40	-1.19
Renewing the equipment	3.48	0.17	4.22	0.91	-0.75
Expanding operational activities	3.2	-0.32	3.94	0.24	-0.57
Making digital the value chain	3.12	-0.46	3.83	-0.02	-0.45
Investing in environmental sustainability	3.96	1.01	4.44	1.44	-0.43
Augmenting the operational facilities	2.84	-0.96	3.56	-0.66	-0.29
Acquiring new machineries	3.63	0.43	4	0.39	0.04
Via entering new markets	4.24	1.50	4.44	1.44	0.06
Investing in employees' education	3.56	0.31	3.94	0.24	0.06
Redesigning the working methodologies	2.96	-0.75	3.5	-0.81	0.06
Investing in social sustainability	3.6	0.38	3.94	0.24	0.13
Hiring new specialized workers	3.04	-0.61	3.5	-0.81	0.20
Investing in marketing and communication	4.12	1.29	4.22	0.91	0.37
Recurring to consultancies	3.2	-0.32	3.5	-0.81	0.48
Loaning money	2.3	-1.90	2.83	-2.41	0.51
Via adding new products/services	4.2	1.43	4.22	0.91	0.52
Enhancing distribution channels	3.92	0.94	4	0.39	0.55
Searching for new financing sources	3.08	-0.54	3.33	-1.22	0.68
mean	3.39		3.84		
standard deviation	0.57		0.42		

Table 2. *Table 2 Growth strategies (n=43)*

For what concerns organizational resilience (Figure 3), we relied on a multi-item scale based on previous studies by (Erol et al.; Hosseini et al. 2016). The Cronbach's alpha of organizational resilience is of 0.87. Looking at each individual item, we notice that wineries led by women are perceived to be more effective in learning continuously and catch opportunities, while those where the CEO is a man seem to be better in managing stress and avoiding waste along the activities of the value chain.

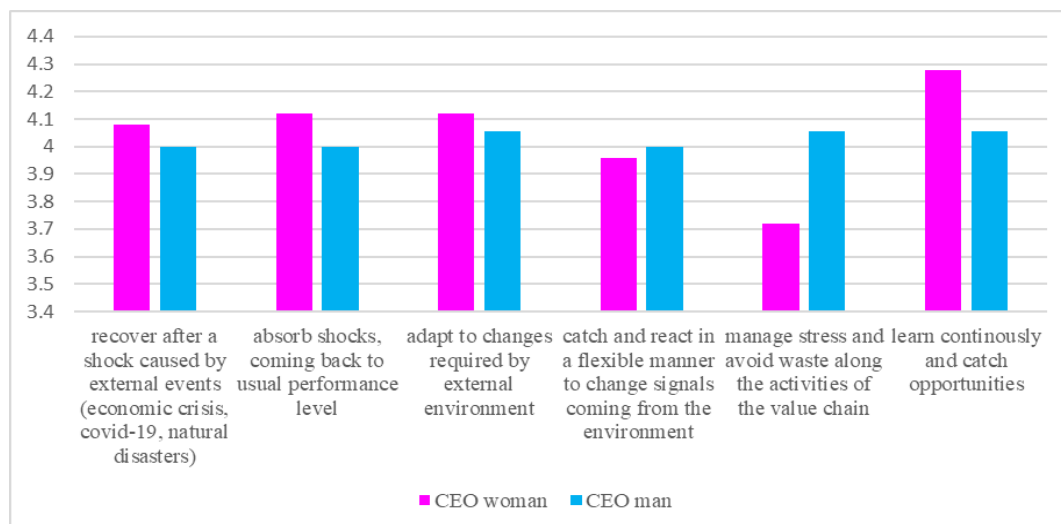


Figure 3. Organizational resilience (n=43)

Illustrative cases from the wine sector

Case study 1 is a family winery at its third generation. The winery sees nowadays two sisters and one cousin involved in the management of the family firm. The oldest sister has been the first who has introduced a continuous involvement of women in the family firm that has been traditionally dominated by men. As an example, she mentioned that when she joined the firm in early 2000s there was no women's toilet.

She joined the family firm without a planned involvement in the winery and this was a "waste" for a couple of years since she did not know what to do exactly. Then, she was able to find her way and to focus on marketing and promotion. Based on her experience she recommended her cousin to have a proper training, education and experience before joining the family firm.

There have been several periods of crises during her life. When she was young, in the 80s there was a trend in the region where all wine growers were getting rid of wine grapes. She remembers that it was a moment of great stress for her father and uncle (at that time leading the firm). In those years the second generation did a countertrend choice: that of acquiring and planting wine grapes.

A second moment of crisis was the financial crisis in the mid-2000s. The family had no financing to invest and searched for external funding from the banks. Banks were supportive since the family firm has a long history and a relationship of trust with the banks sedimented over time.

The third moment of crisis was that of the pandemic. Here the words of the interviewee:

"In the first lockdown, employees working in the hospitality were all at home. We were also closed as a store. We did not send anyone on layoffs. People came to the office in turns. And then we did some live events from home every weekend, on Fridays: all the guys were invited. We had a meeting on communication, one on China, one with the importer, one on the use of social networks. We tried once a week to keep the group alive. We were about 25. The laboratory was also connected, which had nothing to do with it. But they logged in on zoom and we had

these meetings. We have slowed down hiring due to the opening of the hospitality. Seasonal employees, instead of April, started in July."

Case study 2 is a family firm in its third generation. The woman of the first generation joined an existing winery as following her second marriage after her widowhood. She has always paid particular attention to the territory and the traditions, also founding a museum in order to preserve the wine history. Her role has been that of revamping the traditions of the territory and culture. Within the family firm, she was in charge of the "aesthetics of the wine". She has been the pioneer in adding hospitality to wine production being an innovator in the whole territory. Then, the two daughters joined the firm and, more recently, the son of the oldest one. The daughters, especially the oldest, are nowadays focusing on the social aspects of the family firm with particular attention to the preservation and the dissemination of culture related to wine and, more recently, olive oil.

Case study 3 is a family firm in its second generation. The winery was founded following the first generation's desire to produce top quality and innovative wines. The focus was on the unique territory that was protected by an international association as a particular area of natural interest. Two years ago, the father died and the two sisters, already involved in the firm, found themselves guiding the firm. The difficulties have been mainly related to employees who are all quite old men and, due to the cultural traditions, are not so willing to be led by women. Nonetheless, the two sisters have been able to dialogue with them and to overcome the initial problems. This has been possible thanks to education and training. An example is related to "conservation agriculture": the two sisters have tried to reduce a psychological distance, creating a trust relationship with employees.

"The key is each person's character, not their gender. [...] traditionally the wine sector has been conceived as a men-led sector, but it is important that women go beyond managerial responsibilities and look for contributing in a decisive way to men's ideas", says the interviewee.

Furthermore, one of the two sisters finds inspiration from her passion for fashion in order to design the new product lines. The fashion she refers to is related to the colours of her territory that might characterise the identity of her wines.

For what concerns the obstacles faced by women in the wine sector, the informants shed light on different facets. Common to all is the importance that the firm and the surrounding territory should provide in case of maternity and illness. It is important to find supporting tools, not necessarily financial, but also organizational, during this specific moment of a woman's (but also man) life. There is also the importance of considering the broader concept of "diversity" including minorities, disadvantaged people, ethnic or religious minorities. Then, an important aspect seems to be related to the need of shedding light on "complementarity" between men and women: it is from leveraging on the differences that additional value arises.

DISCUSSION AND CONCLUSION

The findings of our study sheds light on the specific context of family wineries. Based on a very small sample of informants belonging to the top management of Italian wineries, we noticed that wineries led by women or by men tend to behave differently with respect to growth strategies and perceive their organizational resilience in different ways. It is noteworthy that men-led wineries pay to more operational and technological aspects, while women-led to innovative products/services, distribution channels and finding new financing sources. Similarly, women-led wineries tend to have a higher score on each of the single items composing the organizational resilience apart from managing stress and avoiding waste along the activities of the value chain.

The three case studies analysed shed light on multiple aspects of organizational resilience and, more in general, of crisis. We identified four different types of critical events: (1) family-related, (2) regulatory-related, (3) financial-related and (4) environment-related (including natural disasters and pandemic). It seems that having overcome critical events in the past, especially at young age, allows to better overcome critical events in the future (Case study 1):

"I only remember the tension. The stress, the tension palpable every evening, the nervousness ... there was no certainty of anything. As long as there was the economic crisis in 2007, the covid... perhaps because the brand was not established, perhaps because we were nobody", says the interviewee.

From a pedagogical point of view, this could imply that in family firms, parents should explain the crisis also at young age of the children.

A second aspect is related to the growth strategies. All case studies investigated have a strong link with the territory and the environmental sustainability issues as represented by attention to the production process, focus on the protected land, and investments in innovative cultivation practices. However, this seems to be not aligned with what emerged from the questionnaire (Table 2). We asked an interviewee to give her opinion about it, and she replied that probably this is due to the fact that women have always invested and paid attention to environmental aspects, and therefore are more "ahead" of men in that. Indeed, the cases analysed shed light on the importance of the social dimension of sustainability in women-led wineries. This adds to previous evidence (Hechavarría et al. 2017). Another poorly searched aspect, in the authors' opinion, is related to the culture and traditions that these women have preserved and are leveraging upon. They are pushed, in doing so, by passion towards art and culture (Case study 2) and fashion (Case study 3).

This study is not without limitations. The small number of questionnaires collected impeded us to test hypotheses and adopt a deductive approach. The Authors are collecting further data in order to test whether there are statistically significant differences among women-CEO and men-CEO family firms. A second limitation is related also to the qualitative evidence collected. Albeit some data triangulation

has been conducted (Yin 1994, vol. 5, p.), the Authors need to conduct further interviewees to other family members in order to have multiple perspectives.

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SUSTAINABILITY AND CIRCULAR ECONOMY. A LITERATURE REVIEW

Cavallini, Iacopo¹; Cinacchi, Jessica²

¹Department of Economics and Business, University of Pisa, Pisa, Italy

²CNA, Pisa, Italy

ABSTRACT

Sustainability is a multidimensional (environmental, economic, cultural, social) and dynamic phenomenon, which has evolved over time according to non-linear trends. Circular economy responds to the desire for sustainable growth; it offers the option to apply the notion of sustainability to the global economic system through a structural change.

The focus of businesses on sustainable development is reflected in several empirical research studies that have identified behavior differences in implementing sustainability policies. While the focus on sustainable development is stronger in large businesses, smaller enterprises seem to be more dedicated to improving occupational wellbeing.

The aim of our research is to highlight the degree of depth of the analyses conducted in research studies on the themes of sustainability and circular economy taken together.

The methodology used to achieve the objective of the research is content analysis.

Keywords: content analysis, circular economy, sustainability, sustainable development

INTRODUCTION

The notion of sustainability was first discussed in 2002, at the UN World Summit on Sustainable Development in Johannesburg, by identifying three interdependent pillars that support each other: the environmental pillar, which takes into account the integrity of ecosystems, the quality of the environment and the reproducibility of natural resources; the economic pillar, which concerns the capacity to generate income and employment for the livelihood of the population; and the social pillar, which is based on the concept of social equity as an ethical principle.

The notion of circular economy responds to the desire for sustainable growth, in the context of the growing pressure that is placed on global resources and the environment by production and consumption.

In Italy, ISTAT (the Italian National Institute for Statistics) started working intensely to define and implement a statistical framework capable of providing empirical evidence on the characteristics of the sustainable behavior of businesses. In 2018, 712,000 companies declared their commitment in

actions aimed at improving the occupational wellbeing of their workforce; 688,000 companies took actions to reduce the environmental impact of their activities; 670,000 companies took steps to improve the level of safety within their company in the territory in which they operate. Overall, 84.3% of companies completed at least one social sustainability action and 75.8% implemented at least one environmental sustainability action. However, by analyzing details by number of shares, companies focus more on environmental sustainability: 10.3% implemented over 10 environmental sustainability actions, 2.7% implemented over 10 actions, and 50.4% implemented only one action. Efforts to reduce the environmental impact are more pronounced among strictly industrial companies (71.6%) and construction companies (71.1%) than service companies (64.5%); among the latter, those operating in the health and social care sector show higher percentages (73.1%). Conversely, as regards the improvement of occupational wellbeing, there are no significant differences between macro sectors of economic activity. Sustainable behavior increases with the size of the enterprise. In fact, large production units show values over 20 percentage points higher than the national average in all macro activities. Micro-enterprises show a more marked orientation towards improving occupational wellbeing, while companies with over 500 employees are more focused on safety and the reduction of their environmental impact. If we combine enterprise size with geographical distribution, the small and medium-sized enterprises of Southern Italy seem to have opted for more sustainable behavior, such as the reduction of the environmental impact and the wellbeing of the territory.

Circular economy responds to the desire for sustainable growth, which means applying the notion of sustainability to the economic system on a global scale through a structural change that cannot be further delayed; increased populations and rising wealth are, in fact, driving an increasing demand for resources, which are not inexhaustible, and leading to a degradation of the environment.

The focus of companies on sustainability and the emergence of an economy that is no longer linear have been variously investigated by researchers.

The purpose of this work is to highlight the degree of depth to which scholars have investigated the theme of sustainability and circular economy jointly.

Our research methodology is content analysis.

This paper includes section two, which describes in detail the steps of the research, section three which presents the results of the analysis, and a conclusive section where the results of the work obtained with the methodology used are discussed.

RESEARCH METHODOLOGY

The aim of the research was pursued using content analysis, used according to a qualitative approach (Chadwick *et al.*, 1984; Nachmias and Nachmias, 1976). In qualitative content analysis, researchers focus on research questions and, when relevant concepts and information emerge, they reserve the option to modify the initially identified questions. The individuals involved in qualitative research place more attention on the uniqueness of the text, with the objective of complying with transferability, i.e., being able to apply the results obtained in other contexts as well. For this reason, and for the cost of this approach from a human perspective, researchers usually focus on a limited sample and reserve the option to conclude the sampling phase even after the start of the coding process. This aspect confirms that qualitative content analysis gives great importance to the specificity, if not uniqueness, of a text and its contents. Furthermore, data analysis is integrated into the coding process and in the formulation of the questions, as questions can be modified on the basis of the themes that may arise during the coding process and the analysis of coded data.

FINDINGS AND DISCUSSION

The definition of the objective was the first necessary step to define the specific subject and the ultimate purpose of the research: to highlight the degree of analysis and in-depth investigation level of studies on the theme of sustainability and circular economy, considered as interconnected elements.

Stage 1: Data collection

The main source of data collection was the Google Scholar online platform, which is necessary to find academic articles in Italian.

The first filter applied to the collection was typing the keywords “sustainability and circular economy” in the search engine, to exclude all the articles that were not relevant to this subject. Then the research was further restricted in time by adding the years 2000, 2010 and 2020 as a second filter, to assess the evolution of these notions over the last twenty years and make the research more reliable. After applying these filters, we obtained approximately 296 results for the year 2000, including books, degree theses, freely accessible academic articles, both paid and confidential; we obtained approximately 1,940 results for the year 2010 and approximately 3,610 results for the year 2020. The exponential growth of the literature on the subject met our expectations.

Then we went on to select only freely accessible academic articles that were actually relevant to these topics and, while identifying articles on this subject, we noticed that keywords were losing their meaning.

The selection led us to build a sample that included a total of 50 items.

Stage 2: Cleaning and merging data

After accurately reading all the articles, we sorted them according to the year of publication. Then, from the original sample, we obtained a sub-sample consisting of 30 academic articles, which were then categorized by time (years 2000, 2009, 2010, 2019, 2020). This categorization showed how the number of articles found and examined increased as we approached the year 2020 by virtue of the greater attention paid to the themes of sustainability and circular economy, jointly considered.

In order to give a further confirmation of the initial objective, a further categorization was made to reflect the degree of in-depth investigation of the subject concerned. This showed that the articles that referred to the year 2000 discussed the sustainability of the urban development. After reading the articles, we realized that the notion of sustainability remained abstract and meaningless, and no reference was made to the motion of circular economy. Conversely, the analysis of the articles of the years 2009-2010 clearly show how the notion of sustainability had evolved to include discussions on sustainability projects, and the theme of circular economy was introduced in the field of waste management.

Finally, the analysis of the articles published in 2019-2020 revealed how the concepts of sustainability and circular economy are dealt with much more in depth and developed jointly. The idea of sustainability is extended to the field of finance and there are many law-making initiatives in the field of sustainable development. In addition, Life Cycle Thinking appeared in these years, as well as projects for the implementation of circular economy to support sustainability. This last categorization shows how, in the last articles analyzed, the concept of sustainability is more clearly connected to that of circular economy, as the latter was precisely created to implement sustainability.

Stage 3: Creating a dictionary

The next step was to create a dictionary of terms, that were subsequently searched in the individual articles. Terms were selected when, in our opinion, they effectively identified the issues of sustainability and circular economy, and they namely were Sustainability, Development, Future, Environment, Budget, Strategy, Cycle, Waste, Scrap.

The terms may be distinguished in two categories, one concerning sustainability and the other concerning circular economy, where the former contains the words Sustainability, Development, Future, Environment and Budget, to reflect anything that can refer to sustainability, while the latter contains of the words Strategy, Cycle, Waste, Scrap and Life Cycle Thinking, which define the theme of circular economy.

Stage 4: Running the analysis

The actual analysis began at this stage and consisted in checking whether the terms of the dictionary we had created were used in the individual articles. This was done by using the search tool of Adobe Acrobat Reader, as articles were available in digital format. The most appropriate method to observe the development of concepts over time and the greatest increasing significance they acquired was counting the terms.

Stage 5: Dictionary validation

The subsequent step was to aggregate data per year and to create a table that included the 10 terms of our dictionary.

Stage 6: Interpreting the data and choosing the appropriate metric

The last stage consisted in selecting the most appropriate method to translate input into output and obtain the final results of the research. We started by comparing frequencies and continued by comparing these with those of the other years considered in our analysis, in order to see whether the words actually reflected the actual change that took place over time in the notions of sustainability and circular economy.

Then, from the total count of the individual words present for each year, the absolute and relative frequencies of each word were determined.

The analysis showed that the terms relating to both sustainability and circular economy were more often used in the articles published in the years 2019-2020 and, above all, the subject was seen in a more pragmatic light and the link between the two concepts was given evidence.

Circular economy is increasingly identified as an indispensable approach to achieving a better sustainability performance.

From an academic perspective, the link between circular economy and sustainability remains sometimes elusive, which confirms, *inter alia*, the achievements of the CERTIS (Center for Research on Circular Economy, Innovation and SMEs) and the interuniversity research center SEEDS (Sustainability, Environmental Economics and Dynamics Studies) in 2019; some other times, the link is deep and almost indissoluble. This difference seems to depend on the methodological approach used: while the relationship between circular economy and sustainability seems to be less evident in studies that prevalently adopted a theoretical approach and focused only on conceptualization, where

empirical analysis was mainly used to understand and evaluate the behaviour of businesses, the relationship between circular economy and sustainability is more evident. This means that companies do understand and incorporate the link between circular economy and sustainability in their behaviour better than scholars do.

CONCLUSION

The aim of the work was to highlight the increasing awareness on the theme of sustainability and circular economy, which are considered in their close interconnection in research studies.

The increasing interest of scholars for these themes is clear and almost obvious. We observed a constant extension of the notion of sustainability to multiple areas under a more pragmatic perspective, while the increase in the focus on the links that tie the two issues with one another has been slower.

However, research has some limitations.

Some problems are related to the tendency to study only hypotheses that confirm the initial thesis, and discard those that refute it. Therefore, the criticality in the use of this methodology is mainly lack of reliability. The reliability of the research tool is a prerequisite for any analysis because the data taken into consideration must remain constant regardless of the measurement instrument used, so the peculiarities of reliability are stability, reproducibility, and accuracy. While the first aspect refers to the invariability of data over time, the second refers to the certainty that the data considered by multiple encoders will lead to the same result, and the third refers to the appropriateness of classifications for certain rules or standards. Reliability, instead, refers to coding rules and is a characteristic of the measurement instrument.

Our purpose is to extend research to intermediate periods, in addition to those examined, and to develop a research study that separates the theoretical contribution from the empirical evidence about the theme of sustainability and circular economy taken together.

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ENCLOSURES

Table 1: Analysed articles categorised by year (2000-2020)

Year of publication of the article	Total articles
2000	3
2009	2
2010	3
2019	10
2020	12
Total	30

Source: internal processing.

Table 2: Analysed articles categorised by year and by subject

1	2000	Società rurali, sistemi locali e mercati del lavoro	Disappearance of rural society with a dynamic labour market, with consequent risks in terms of sustainability of the local systems of the provinces of Pesaro-Urbino and Macerata
2	2000	Le valutazioni integrate per lo sviluppo sostenibile	Sustainable development in the city of Naples
3	2000	Nuovi soggetti e nuovi strumenti per la gestione delle trasformazioni territoriali	Innovation in territorial planning and programming
4	2009	L'analisi multi-criteriale per la valutazione della sostenibilità	Definition of sustainability and description of the instruments for environmental and social reporting
5	2009	Pianificazione e gestione dei rifiuti nella provincia di Torino	Description and use of the Life Cycle Assessment (LCA) methodology
6	2010	Un esempio di riforestazione sostenibile: la Farmer Managed Natural Regeneration nel Sahel	The contribution of developing countries to mitigate the effects of climate change
7	2010	La politica ambientale: da opportunità a necessità?	Description of the relationship between natural environment and economy
8	2010	Il progetto didattico Velante in Puglia: innovazioni sostenibili per piccole imbarcazioni da riporto. Le tecniche innovative di rilievo,	Project for the improvement of the environmental impact of small-scale racing sailboats

		misura e confronto progetto/prodotto	
9	2019	L'economia circolare nel settore delle costruzioni. Strumenti geospaziali a supporto delle decisioni	Application of the principles of circular economy to the construction industry
10	2019	L'approccio "Life Cycle Thinking" applicato alla gestione dei rifiuti: un modello a sostegno dell'economia circolare a garanzia della sostenibilità	Benefits of the Life Cycle Thinking approach applied to waste management worldwide
11	2019	La legislazione europea in materia di economia circolare e il ruolo dei governi nazionali	A summary of the European regulatory framework for the circular economy
12	2019	Adottare i principi dell'economia circolare nella strategia d'impresa. Un'indagine sul livello di recepimento delle imprese italiane	Study of whether and how the transition to a circular economy is an opportunity for Italian companies
13	2019	Il modello di città circolare come modello di sviluppo per le città di piccola, media e grande dimensione	Description of possible solutions for the development of the Circular City - the case study of the metropolitan city of Naples
14	2019	Città ed economia circolare. Il living lab di Torino	Description of living labs as physical spaces in which players, businesses, public bodies, and citizens collaborate to create services and technologies relating to the circular economy
15	2019	Play with it! Sostenibilità e strategie engagement nel Museo di Geografia di Padova	A museum itinerary to encourage visitors to adopt more sustainable behaviours in daily life
16	2019	Città metropolitana di Napoli: beni culturali, turismo, economia circolare	Description of projects for the sustainable development of the metropolitan city of Naples
17	2020	Finanza sostenibile e responsabile per il bene comune	History and definition of sustainable finance
18	2020	Cambiamenti climatici ed economia circolare: tecnologie abilitanti e life-cycle thinking per lo sviluppo sostenibile	Explanation of the concepts of sustainability and circular economy and description of some projects to implement them in practice
19	2020	I differenti significati di sostenibilità per le imprese del lusso e della moda: case studies a confronto	Inclusion of sustainability in the value proposition of the companies Candiani Denim, Carmina Campus, Kering
20	2020	Economia circolare, esperienze di ricerca a unimi-esp	Description of the creation of a research and training centre dedicated to the study of projects to promote sustainability
21	2020	Crisi ambientale e soluzioni per la sostenibilità e l'adattamento	History of the concept of sustainability and description of some green technologies

22	2020	Per un'economia circolare sociale. Come dagli scarti generare opportunità di inclusione	Demonstration that circular economy can promote social and territorial values while generating job opportunities
23	2020	Il consumo di acqua imbottigliata nella prospettiva dell'economia circolare: il caso Salento (Sud Italia)	Study on the consumption of bottled water by residents in the province of Lecce
24	2020	Insetti per la valorizzazione di scarti vegetali: l'economia circolare grazie alle mosche soldato	Use of soldier flies to obtain high-energy nutrients that can be used in the food industry as fuels
25	2020	Materiali leganti: tradizione e innovazione per un'edilizia eco-sostenibile e bioregionale	Description of binding materials for sustainable construction
26	2020	Fiscalità dell'ambiente, mercato e sviluppo sostenibile: un equilibrio possibile?	Protection of the environment through the application of appropriate taxation
27	2020	Economia circolare urbana: verso un indicatore a supporto dei policy maker	Description of some indicators for measuring the urban circular economy
28	2020	Dalla crisi allo sviluppo sostenibile. Il ruolo dei sistemi di misurazione e controllo	Companies should implement an integrated corporate governance approach to tackle crises and create sustainable development processes, by developing internal-external control systems
29	2020	Economia circolare: definizione e politiche europee	Description of European policies in favour of circular economy
30	2020	Uso degli scarti nell'economia circolare	An overview of the concept of circular economy

Source: internal processing.

Table 3: Dictionary of terms

Terms
Sustainability (a)
Development (b)
Future (c)
Environment (d)
Budget (e)
Strategy (f)
Cycle (g)
Waste (h)
Scrap (i)
Life Cycle Thinking (j)

Source: internal processing.

Table 4: Count of dictionary terms in articles

#	a	b	c	d	e	f	g	h	i	j
1	3	48	4	2	3	0	0	0	0	0
2	30	38	2	15	3	5	0	3	0	0
3	10	23	2	6	0	2	0	0	0	0
4	79	59	5	5	40	5	0	8	0	0
5	5	2	3	20	0	3	4	70	3	2
6	4	2	1	5	0	0	0	0	0	0
7	10	16	6	19	0	0	4	6	2	0
8	17	10	2	3	0	2	7	0	4	0
9	10	6	1	5	0	1	1	10	3	0
10	6	5	0	13	0	4	5	27	0	7
11	19	26	6	42	0	1	10	69	13	3
12	9	18	2	30	3	22	5	9	6	0
13	53	99	10	30	0	22	31	46	5	3
14	9	10	3	12	0	1	5	6	7	0
15	18	5	4	5	0	4	0	1	0	0
16	15	21	3	7	0	4	9	8	0	0
17	12	13	0	0	0	1	0	0	1	0
18	16	11	1	18	0	12	5	1	0	7
19	83	27	2	15	0	6	1	2	2	0
20	10	4	1	11	0	3	2	2	9	0
21	38	21	13	27	0	2	2	7	2	0
22	4	7	3	6	0	1	5	1	15	0
23	1	0	0	9	0	0	0	10	0	0
24	1	5	0	3	0	1	2	3	6	0
25	30	6	3	5	0	0	1	4	16	0
26	22	19	5	16	0	2	0	2	0	0
27	10	8	1	20	0	3	2	26	2	0
28	17	13	5	7	8	2	0	1	0	0
29	15	7	2	6	0	8	3	23	2	0
30	7	2	1	5	0	0	0	3	5	0

Source: internal processing.

Table 5: Count of dictionary terms used in articles grouped by year

Year	a	b	c	d	e	f	g	h	i	j
2000	43	109	8	23	6	7	0	3	0	0
2009	84	61	8	25	40	8	4	78	3	2
2010	31	28	9	27	0	2	11	6	6	0
2019	139	190	29	144	3	59	66	176	34	13
2020	266	143	37	148	8	41	23	85	60	7

Source: Our elaboration

Table 6: Absolute frequency

Year	a	b	c	d	e	f	g	h	i	j
2000	43	109	8	23	6	7	0	3	0	0
2009	84	61	8	25	40	8	4	78	3	2
2010	31	28	9	27	0	2	11	6	6	0
2019	139	190	29	144	3	59	66	176	34	13
2020	266	143	37	148	8	41	23	85	60	7
Total	563	531	91	367	57	117	104	348	103	22

Source: internal processing.

Table 7: Relative frequency (%)

Year	a	b	c	d	e	f	g	h	i	j
2000	7.64	20.53	8.79	6.27	10.53	5.98	0%	0.86	0	0
2009	14.92	11.49	8.79	6.81	70.17	6.84	3.85	22.41	2.91	9.09
2010	5.51	5.27	9.89	7.36	0	1.71	10.58	1.72	5.82	0
2019	24.69	35.78	31.87	39.24	5.26	50.43	63.46	50.57	33.01	59.09
2020	47.25	26.93	40.66	40.33	14.03	35.04	22.11	24.42	58.25	31.82

Source: internal processing.

THE IMPACT OF BOARD OPERATION ON EMPLOYEE TURNOVER

Chen, Yi-An

Department of Business Administration, National Chengchi University, Taipei, Taiwan

ABSTRACT

Corporate social responsibility is presented in four dimensions, including corporate governance, corporate commitment, social participation, and environmental protection. Paying attention to employee-related fairness issues is an indispensable part of corporate social responsibility. Few studies pay attention to the effect of Board operation on CSR issue. This paper explores the impact of board operation on the employee turnover rate, which echoes one of the facets of corporate social responsibility. The results indicate that the D&O insurance rate, frequency of chairman redesignation and continuing professional education hours are positively related to the employee turnover rate. The actual attendance of board meetings is negatively related to the employee turnover rate. Future research may explore more factors and moderators in contingencies.

Keywords: employee turnover, developing country, D&O insurance, CSR

INTRODUCTION

A recent increase in regulatory and corporate stakeholder focus on CSR has been a direct response to increasing international incidences of corporate actions that have been detrimental to society and the environment (Abdullah & Michael, 2021; Chatzoglou et al., 2017). Corporate social responsibility (CSR) means that what enterprises do is in line with social values (Bowen, 2013), it can be measured in four dimensions: corporate governance, corporate commitment, social participation, and environmental protection (Sarvaiya et al., 2018). CSR comprises consumer commitment, employee training and care, and investment in innovative research and development, so employee training, care, and safety are all important CSR-related issues (Collier & Esteban, 2007). Paying attention to employee-related fairness issues is an indispensable part of corporate social responsibility. There are many issues concerning employee fairness, among which “salary of basic staff” and “employee turnover rate” are the most concerned issues among the public. In 2014, the Stock Exchange in Taiwan published the “Taiwan High Salary 100 Index” and compiled the index to encourage enterprises to fulfil their social responsibilities in terms of employees. Moreover, prior research shows that the employee turnover is negatively associated with future financial performance (Li et al., 2021). In other words, firms with a lower employee turnover rate will have a better future financial performance.

Boards of directors are the most prominent internal governance mechanism due to their responsibility to appoint, monitor and incentivize managers; set long-term objectives and strategies for the firm; provide input and counsel to internal stakeholders, and build and maintain relationships with key external stakeholders. Khan et al. (2013) argue that CSR engagement decisions are principally determined by the motives and choices of the board members who make firm-level strategic choices and are held accountable for their outcomes.

In addition, employees are the most important intangible assets of an enterprise. Among all kinds of stakeholders in an enterprise, employees are the group that maintains the longest relationship. Regarding the relationship between employee turnover and financial performance, the literature suggests that if a company wants to achieve long-term financial growth, it must invest more in its employees, systems, and organizational process capabilities (Kaplan & Norton, 1996). Employee turnover in the previous period might affect the corporate profitability and customer satisfaction in the next period (Koys, 2001).

The board and directors play an important role in affecting CSR and firm strategy (Neves et al., 2022). Prior researches focus more factors on the characteristic of the directors and the composition of the directors (Aladdin et al., 2020; Sundarasan et al., 2016). Few studies pay attention to the effect of Board operation on CSR issue. Therefore, in this study, we explore how the board operation (e.g. D&O insurance, attendance and the frequency of the chairman redesignation) influence the employee turnover rate (employee issue in CSR).

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Directors and Officers (D&O) insurance

The literature mainly focuses on how the Directors and Officers (D&O) insurance restrains the loss caused by fraud or litigation. Although some scholars have analyzed the importance of this type of insurance (Chen et al., 2011; Noel, 2002), most studies have focused on the motivations of D&O insurance (Chen & Li, 2010). First of all, on the premise that litigation expenses may exceed insurance premiums, enterprises tend to purchase D&O insurance. The purpose of D&O insurance is to reduce litigation costs and subsequent compensation by means of D&O insurance, so as to protect the rights and interests of shareholders and avoid the expansion of shareholder losses in litigation cases. Secondly, based on adverse selection and moral hazard, insurance companies will strengthen credit investigation and supervision of insured enterprises in underwriting. Under this premise, shareholders' rights and interests will be further protected. Furthermore, D&O insurance may be taken out to consolidate the interests of directors or insured persons and to enable them to perform their duties without further risk to enhance shareholder profits (Bhagat et al., 1987). Core (1997) points

out that the board of directors and the company's key executives are risk avoiders, and liability insurance may be part of the optimal compensation contract. Taking the initiative to insure directors can reduce the cost of compensation contract. If a company decides to take out insurance after considering the risk of litigation, possible losses and the cost of insurance, it means that the insurance helps increase the value of the company.

On the other hand, D&O insurance may be designed to cover the self-interested behavior of managers or insiders (Chalmers et al., 2002; Core, 2000). In cases where insiders have the advantage of information and insurers may not be able to identify the advantages and disadvantages of the applicant (Baker & Griffith, 2007), such insurance may become a tool for risk transfer for self-interested reasons. Directors' liability insurance creates an incentive for insiders to profit and exploit shareholders. Chalmers, Dann and Harford (2002) found that the stock price performance of 72 IPO companies three years after issuance was negatively correlated with the amount of D&O insurance before IPO. This shows that the management of the company has a speculative behavior to insure D&O insurance. That is, if an insider has an information advantage, a company's D&O insurance may be a signal of increased risk to the company, not necessarily good news to increase the company's value.

The D&O insurance has a negative effect on the directors' behavior. For example, firms with D&O insurance experience more severe board meeting attendance problem compared to their uninsured peers (Jia & Tang, 2018). When a company purchases D&O insurance, it may also transfer part of the risk of legal liability to the insurance company, resulting in moral hazard between the board of directors and supervisors and their management. In addition, Chen and Li (2010) believe that the purchase of D&O insurance is not a completely independent business model with corporate governance. In fact, litigation risk is a relatively direct factor between the two. However, it is difficult for investors to measure the quality of corporate governance by indirect method and observe the litigation risk of the company. The existence of a lawsuit is often not known until the company is sued. Therefore, a company taking out D&O insurance may be a sign of increased risk, so it is not necessarily good news to increase the value of the company. There may also be deregulation under the protection of D&O insurance. This affects the effectiveness of corporate governance and is not conducive to corporate governance, thus reducing corporate value.

Insurance companies must accurately assess the potential cost of each policyholder since they ultimately bear the full cost of any mistake. As a result, D&O insurance underwriters have developed specific risk assessment tools that allow them to properly select clients and their litigation risk. Underwriters use three sources of information: The written application that contains a full array of documentation, the public financial and accounting data analysis, and interviews with the prospective

insured's senior management team (Baker & Griffith, 2007). The information gathered by the insurer about a potentially insured firm's internal processes and structure is not divulged to other market participants (Knepper & Bailey, 1998).

All the above statements indicate that the amount of D&O insurance may be a signal of internal problems and increase moral hazard of directors. We consider the problems will in turn affect the employee's willingness to stay in the firm. Therefore, we consider the following hypothesis:

H1: The D&O insurance rate is positively related to the employee turnover rate.

The frequency of chairman redesignation

Studies in the literature on corporate governance stress the important role that boards of directors play in devising and influencing organizational strategies (Joern et al., 2019). Early work on boards highlighted their core task as monitoring and control. In line with agency theory, the board is responsible for preventing opportunistic manager behavior that runs counter to shareholders' interests (Eisenhardt, 1989; Mizruchi, 1983). Boards therefore monitor CEO performance and compensation (Benkraiem et al., 2017), approve or reject management initiatives, oversee strategy implementation (Hendry & Kiel, 2004), and replace managers (Conyon & Peck, 1998). Besides pointing to reactive monitoring and controlling, scholars building on resource dependence, social network, and stakeholder theory have emphasized that boards can take on more proactive roles in shaping strategies (Desender et al., 2013; Hillman & Dalziel, 2003). According to these perspectives, board members link the firm to important external stakeholders (Hillman et al., 2000), thereby facilitating access to critical organizational resources such as capital (Mizruchi & Stearns, 1988), legitimacy (Coglianese, 2007), and information (Haynes & Hillman, 2010). In addition, boards provide advice and counsel to executives (Stevenson & Radin, 2009) and play an active part in strategy formulation by conducting analyses, suggesting strategic alternatives (McNulty & Pettigrew, 1999), and selecting new members of the top management team who are in accord with the desired strategic direction (Westphal & Fredrickson, 2001).

The chairman's role includes providing effective leadership to the Board in relation to all board matters, promoting consultative, productive and successful relations between the board and management and representing the views of the board to the public. Therefore, when the firm performs poorly, the chairman will tend to be changed frequently. With the frequent redesignation of the chairman, the firm strategy may also have different directions. If employees' expectations toward the organization are not fulfilled, the consequences for job satisfaction and commitment to work result in the employees deciding to leave the organization (Muller & Price, 1990). Under this unstable situation, employees may change the tasks frequently because of a new strategy or decision from the top

management team, which will make the original staff unwilling to stay or the firm needs to recruit new staff. Thus, we consider the following hypothesis:

H2: The frequency of chairman redesignation is positively related to the employee turnover rate.

The actual attendance of board meetings

Academic studies have documented the importance of director attendance from two dimensions. First, Cai et al. (2009) show that poor attendance has a significant effect on the likelihood of director re-election. Directors receive 14 per cent fewer votes if identified as attending less than 75 per cent of meetings in their sample of elections at US firms. Second, director attendance is an important measure of corporate governance that is related to firm performance. Brown and Caylor (2006) show that director attendance is one of the seven (out of 51) most significant corporate governance measures related to firm performance in the USA. Chou et al. (2013) and Min and Verhoeven (2013) also show that outside director attendance is positively related to firm performance in Taiwan and South Korea.

The prior literature on director attendance has demonstrated that attendance at board meetings is systematically related to both director and firm characteristics. Examining the incentives of directors to attend meetings, Adams and Ferreira (2008) find that attendance is better when director compensation (e.g. board meeting fees) is higher, indicating that monetary incentives have an impact on director behavior. They also find that attendance is worse on larger boards (more opportunity for free-riding behavior) and better in larger firms and in poor performing companies (where there is a greater reputational cost of missing meetings). Jiraporn et al. (2009) examine the impact of multiple directorships on director attendance and find a negative relationship between the number of outside directorships and attendance. Adams and Ferreira (2009) investigate differences in attendance behavior between male and female directors and find that female directors have better attendance records. In addition, Chou et al. (2013) find that director attendance is related to director qualifications and firm ownership structure.

Directors are required to undertake complex tasks, such as monitor firm operations and management, analyze merger and acquisition opportunities, evaluate capital raising options and hire and set the remuneration of top executives. Their ability to perform these tasks is hindered if they do not access information and interact with other board members at meetings. Hence, attending board meetings is to accomplish a director's responsibility and is associated with subsequent higher firm performance (Chou et al., 2013). The frequency of board meetings attended by directors themselves has a positive and significant effect on a firm's profitability (Chou et al., 2013). On the contrary, the low actual attendance rate of the board of directors, on the one hand, represents the poor performance of the company; on the other hand, it may also bring negative perception to employees, thus failing to

retain talents and resulting in high employee turnover rate. Thus, we propose the following hypothesis:

H3: The actual attendance of board meetings is negatively related to the employee turnover rate.

DATA AND METHODOLOGY

We collected the data from Taiwan Economic Journal Database (TEJ). Our sample consisted the firms from manufacturing industries listed in 2020. After collecting, we did the data compilation to eliminate companies with vacant information and winsorize the data. The final valid items were 836. This study used multiple regression analytics to explore the influence of board operations on employee turnover rate.

Dependent variable

Following Lin and Zhong (2005), employee turnover rate is calculated by the below equations:

$$N_t - X_{t+1} + Y_{t+1} = N_{t+1} \quad (1)$$

$$\frac{(N_t - X_{t+1}) * (B_t + 1) + (Y_{t+1} * 0.5)}{N_{t+1}} = B_{t+1} \quad (2)$$

Combine formula 1 and formula 2 to obtain

$$X_{t+1} = \frac{2N_t B_t - 2N_{t+1} B_{t+1} + N_t + N_{t+1}}{2B_t + 1}$$

$$\frac{X_{t+1}}{N_t} = \frac{X_{t+1}}{N_t}$$

N_t : Number of employees at the end of t

B_t : Average service life of employees at the end of t

X_{t+1} : the number of employees leaving the company at the end of t to t+1

Y_{t+1} : the number of new employees from the end of t to the end of t+1

L_{t+1} : employee turnover rate for the t+1 year

Independent variables

The actual attendance rate is calculated based on the number of meetings of the and the number of actual attendances (departures) during the period of the director's employment. D&O insurance rate is calculated by the insured amount based on the year of the insured date divided by total assets. The frequency of chairman redesignation is calculated by the number of chairman changes in the past three years.

Control variables

Existing empirical evidence generally agrees that there is a strong negative relationship between increased age and turnover (Mobley, 1982). Cotton and Tuttle (1986) also found there is a relationship

between increased tenure and turnover. Therefore, we include the average of employee age and the average of employee tenure as control variables.

RESULTS AND DISCUSSIONS

Descriptive Statistic and Correlations

Table 1 presents the descriptive statistic. The mean of D&O insurance rate is 6.12 and the standard deviation is 18.95, which mean the range is large compared to other variables. The mean of actual attendance rate is 93.59, which means almost all board of directors have high actual attendance. The frequency of chairman redesignation is between 0 to 4 times. The mean of employee turnover rate is 13.62. In Table 2, the correlation matrix depicts the correlation between all the possible pairs of values in a table. All variables are not highly correlated to each other. In Table 3, the variance inflation factor (VIF) of all variables are below 10, which indicates there is no serious collinearity problem (James et al., 2013).

	Mean	Std. Dev.	Min	Max
D&O insurance rate	6.12	18.95	0	300.47
Actual attendance rate	93.59	7.47	48.6	100
Frequency of chairman redesignation	0.24	0.57	0	4
Employee turnover rate	13.62	12.16	0.01	98.66
Average age of employee	38.32	4.32	26	54
Average tenure of employee	7.40	3.37	1	24

Table

1. Descriptive statistics

	(1)	(2)	(3)	(4)	(5)	(6)
Employee turnover rate (1)	1					
Actual attendance rate (2)	-0.0936	1				
D&O insurance rate (3)	0.1227	-0.1142	1			
Frequency of chairman redesignation (4)	0.2215	-0.1084	0.1749	1		
Average age of employee (5)	-0.1864	-0.0551	0.1299	0.0901	1	
Average tenure of employee (6)	-0.3579	-0.0357	-0.0046	0.0565	0.7132	1

Table 2. *Correlation matrix*

Variable	VIF
Actual attendance rate	1.02
D&O insurance rate	1.14
Frequency of chairman redesignation	1.07
Average age of employee	2.17
Average tenure of employee	2.07
Mean VIF	1.50

Table 3. *Variance inflation factor (VIF)**Hypothesis Testing*

The results of the board operation impact on employee turnover rate are presented in Table 4. The results of control variables show that average tenure of employee has a significantly positive impact on employee turnover ($\beta=-1.40$, $p < 0.05$) while average age of employee is not significantly correlated to employee turnover ($\beta=0.13$, $p > 0.05$). H1 predicts a positive direct relationship between the D&O insurance rate and the employee turnover rate, which is supported by the results ($\beta=0.22$, $p < 0.05$). The frequency of chairman redesignation significantly affects the employee turnover rate ($\beta=3.52$, $p < 0.05$), which supports H2. The actual attendance rate also significantly affects the employee turnover rate ($\beta=-0.11$, $p < 0.05$), supporting H3. All the three hypotheses are supported by the results.

According to the results, we can conclude in the following ways. First, the D&O insurance has a negative effect on the directors' behavior. When a company purchases D&O insurance, it may transfer part of the risk of legal liability to the insurance company, resulting in moral hazard between the board of directors and supervisors and their management. The amount of D&O insurance may be a signal of internal problems and increase moral hazard of directors. This problem will in turn affect the employee's willingness to stay in the firm.

Second, with the frequent redesignation of the chairman, the firm strategy may also have different directions. Under this unstable situation, employees may change the tasks frequently because of a new strategy or decision from the top management team, which will make the original staff unwilling to stay or the firm needs to recruit new staff.

Third, directors are required to undertake complex tasks. Their ability to perform these tasks is hindered if they do not access information and interact with other board members at meetings. Hence, attending board meetings is to accomplish a director's responsibility and is associated with subsequent higher firm performance. The low actual attendance rate of the board of directors represents the poor performance of the company. In this vein, it may also bring negative perception to

employees, thus failing to retain talents and resulting in high employee turnover rate.

Employee turnover rate	Coef.	Std. Err.	t	p
D&O insurance rate	0.22	0.05	4.53	0.000
Frequency of chairman redesignation	3.52	0.65	5.45	0.000
Actual attendance rate	-0.11	0.05	-2.23	0.026
Continuing professional education hours	0.27	0.13	2.18	0.03
Average age of employee	0.13	0.12	1.07	0.286
Average tenure of employee	-1.40	0.15	-9.26	0.000

Table 4. *Hypothesis testing results*

Additional testing

Table 5 presents our additional test, we found that continuing professional education hours of directors are positively related to the employee turnover rate ($\beta=0.27$, $p<0.05$). In other words, the more continuing professional education hours (CPE hours), the more frequently directors and supervisors are newly appointed, leading to the higher the employee turnover rate. We suggest that the reason behind this fact is according to the Directions for the Implementation of Continuing Education for Directors and Supervisors of TWSE Listed and TPEX Listed Companies. It is advisable for a newly appointed person to complete a minimum of 12 CPE hours in the year the person is appointed, and a minimum of 6 hours per year in each following year. It is advisable for a re-appointed person to complete a minimum of 6 CPE hours per year during the term of appointment. Therefore, the results implicate that the newer the board, the higher the employee turnover rate.

Employee turnover rate	Coef.	Std. Err.	t	p
Continuing professional education hours	0.27	0.13	2.18	0.03

Table 5. *Additional testing results*

IMPLICATION

Our results have several implications for the practitioners in the firms. First, the D&O insurance rate is a signal of internal problems and increase moral hazard of directors. These problems will in turn affect the employee's willingness to stay in the firm. We suggest that firms purchase a reasonable amount which is similar to its industry. Second, frequency of chairman redesignation is an internal unstable situation. Employees may change the tasks frequently because of a new strategy or decision from the top management team, which will make the original staff unwilling to stay or the firm needs to recruit new staff. We suggest that firms cut down the frequency of redesignation, and only redesign when it is necessary. Third, firms are encouraged to increase the attendance rate of the board of

directors lest bring negative perception to employees, thus failing to retain talents and resulting in high employee turnover rate. Fourth, firms need to pay attention to the replacement of new and old directors. The newer the board, the higher the employee turnover rate.

CONCLUSION

Corporate social responsibility can be measured in four dimensions, including corporate governance, corporate commitment, social participation, and environmental protection. Paying attention to employee-related fairness issues is an indispensable part of corporate social responsibility. This paper explores the impact of board operation on the employee turnover rate, which echoes one of the facets of corporate social responsibility. The results indicate that the D&O insurance rate, frequency of chairman redesignation and continuing professional education hours are positively related to the employee turnover rate. The actual attendance of board meetings is negatively related to the employee turnover rate. Future research may explore more factors and moderators in contingencies.

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TOP WORLD'S LARGEST CONTAINER SHIPS AND SUSTAINABLE SUPPLY CHAIN MANAGEMENT. IS SHIPPING INDUSTRY READY TO CELEBRATE THE RELEASE OF "EVER ACE"?

Cruz Gonçalves, Fernando¹; Chkoniya, Valentina²

¹Escola Superior Náutica Infante D. Henrique, ENIDH, Paço de Arcos, Portugal

²GOVCOPP, ISCA-UA, University of Aveiro, Aveiro, Portugal

ABSTRACT

Shipping is the life blood of the global economy. Without shipping, intercontinental trade, the transport of raw materials, and the import/export of affordable food and manufactured goods would simply not be possible (International Chamber of Shipping, 2020). On the other hand, sometimes, involuntarily, in the exercise of its activity, maritime transport causes damage to other economic agents (society as a whole) and does not pay compensation for the damage it has caused. The present work is an exploratory study that aims to position the top world's largest container ships in Sustainable Supply Chain Management (SSCM). The purpose, at first, is to provide information about the state of the art in economy of scale (ES) in maritime industry, make overview on innovation of vessel size and then evaluate sustainability of those business concepts. Organizations are informed and encouraged by management theories to build their supply chain strategies at the SSCM-ES nexus, including stakeholder theory, institutional theory, nature resource-based view, amongst others (Allen, Zhu and Sarkis, 2021). This paper highlights an important locus in the global supply at an operational level. In summary, the authors seek to translate the complex reality of the sector into words and identify possible improvements resulting from lessons learned from one of the darkest moments in the shipping industry (stranding of "Ever Given" and its consequences at global scale).

Keywords: Supply Chain Management; Shipping Industry; Sustainable Business Practices; Ever Given; Suez Canal; Evolution of Vessel Size; Innovation in Shipping; Consumption; Globalization; Global Supply Chains

INTRODUCTION

Over the last 100 plus years, supply chain management has evolved from an initial focus on improving relatively simple, but very labour-intensive, processes to the present day engineering and managing of extraordinarily complex global networks (Panday and Panday, 2018; Chkoniya, Gonçalves and Batista, 2021). The increased complexity can be seen in the percentage of foreign value added to the exports of

each country, which has been increasing steadily almost without exception. In comparison to traditional vertically integrated value chains, global supply chain (GSC) raise systemic risks, as factories and countries become increasingly interconnected partners in a dense and complex logistics network. Similarly, to what happens in financial markets, failure at one node – e.g., delay in production of a given component – cascades to the rest of the network in various directions (Cacho, Marques and Nascimento, 2020).

According to the United Nations Conference on Trade and Development, maritime transport is the backbone of the GSC since the international shipping industry is responsible for the carriage of around 90% of world trade (UNCTAD, 2020). Shipping is a global service industry that, by general recognition, provides the lifeline of international trade (Cacho et al., 2021). Suffice it to say that, due to the morphology of our planet, most international trade takes place by sea (Haralambides, 2019; Langen, 2020).

The present work is an exploratory study that aims to position the top world's largest container ships in GSCs management. The purpose, at first, is to provide information about the state of the art in economy of scale (ES) in maritime industry, make overview on innovation of vessel size and then evaluate sustainability of those business concepts. This paper highlights an important locus in the global supply at an operational level. In summary, the authors seek to translate the complex reality of the sector into words and identify possible improvements resulting from lessons learned from one of the darkest moments in the shipping industry (stranding of "Ever Given" and its consequences at global scale).

BACKGROUND

The key economic decision related to economic activity development is the determination of production scale (Bernacki, 2021). The concept of ES translates into a reduction in unit production costs, by increasing the size of the production unit (van Hoek, 2022). Applied to the containerized cargo maritime transport sector, it will be the reduction of the unit transport cost (per container) resulting from the increase in the size of the transport unit (container ship) (Chokshi, 2021; Fan and Xie, 2021).

In academic terms, we know that whenever there are economies of scale in production, naturally, there are diseconomies of scale. And there is nothing so practical as a good theory of economic science.

There is an inflection point, in which the increase in the size of the production unit (transport unit, in this case, the container ship) translates into an increase in the unit cost of production (of transport, in this case of application to the maritime transport of cargo containerized) (Garrido et al., 2020). In practice, it means that the percentage increase in production is less than the percentage increase in associated costs.

In the transport industry, economies of scale are characterized by a significant diversification in terms of type and possible effects. In transport, there are three types of economies of scale, namely (Hintjens et al., 2020; Bernacki, 2021; Macário and Van de Voorde, 2022):

Related to the increase in the size of transport means (economies of vehicle size).

Resulting from the development of the production capacity of a transport enterprise in the form of an increase in the number of rolling stock/fleet (economies of fleet size).

Combined with the spatial expansion of a transport network served by a carrier because of new connections and/or covering additional transport nodes (economies of network size).

As the global economy and connectivity continue to expand, the vast chain of supply and demand for goods is also expanding. As a result, the shipping industry responds to global trends and economic factors, as the main transporter of goods. Container ship category has the highest global growth compared to other ship categories: Tankers, LNG (Liquid Natural Gas) Ships, Bulk Carriers, General Cargo, Container Ships, Ro/Ro (Roll on/ off) ships, Car-Carriers, Passenger Ships and Others (Bereza, Rosen and Shenkar, 2020).

The reason is simple. The increase in the size of the ships translates into a much higher acquisition cost, compared to smaller ships, justified by the need to incorporate new technologies, larger sheet metal, more resistant materials, and even, eventually, second propulsion (as in Maersk's "Triple-Es"). At the same time, in operational terms, this translates into larger crews, higher fuel consumption, an exponential increase in insurance costs while traveling and in port, higher port fees, etc (Petersen, 2020).

Ideally, the two worlds should be studied in parallel, for it is difficult to understand ports without a good understanding of international shipping and vice versa. This has always been the MEL philosophy, whenever it came to the definition of "maritime economics", or "maritime logistics". Knowing that parallel reading won't happen in most cases (Haralambides, 2019).

One of the central problems of the Maritime Economy, in academic terms, has been the determination of the inflection point of the curve of the size of the ship, in which we pass from economies of scale to diseconomies of scale. This aspect is crucial to know what the maximum size of container ships will be, an essential variable for the sizing of the port operation.

But the truth is that the Academy has systematically underestimated this tipping point and most academic studies have led to unsatisfactory results. The market quickly refutes these studies and shows that the inflection point of economies/diseconomies of scale has not yet been reached.

The market is the faithful indicator of this academic problem. None of the major maritime operators would be operating new, large ships, whose unit transport costs would be higher (diseconomy of scale) than smaller ships.

The systematic underestimation of the inflection point of economies/diseconomies of scale has also led to erroneous decisions in large investment projects for maritime/port infrastructures (Sánchez, Perrotti and Fort, 2021). The expansion of the Panama Canal is an example of this.

OVERVIEW ON INNOVATION AND THE EVOLUTION OF VESSEL SIZE

In maritime transport, economies of scale are studied primarily in terms of the increasing sizes vessels (economies of vessel size) (Bernacki, 2021). Global trade boomed around the 1950s with the introduction of container boxes. The container shipping market was born, significantly reducing transport costs. In the following decades, container ships became an important part of the global logistics chain. Since the introduction of the container ship, there has been an impressive increase in its use to take advantage of economies of scale. In the last two decades, the capacity of vessels has trebled (Garrido et al., 2020).

These sizes are classified according to the deadweight (DWT), which in the case of container ships drives according to the number of equivalent twenty-foot containers (TEUs) they can transport simultaneously. Economies of vessel size refer to a situation where unit costs (cost/TEU), the costs relevant to pricing and competitiveness, decline as ship size increases (Haralambides, 2019).

The first generation of container ships were primarily modified bulk vessels with a capacity up to 1,000 TEU (Klose, 2015). Rapid evolution followed. Currently, vessels of 23,000 TEU sail the seas (Boccardo and Rosano, 2019).

Evergreen Maritime Operator's "Ever Ace" has become the largest container ship in the world (Olsen, 2022).

With a capacity of 23,996 TEU, it dethroned the Algeciras Class ships of HMM-Hyundai Merchant Marine (South Korea), which have a payload capacity of 23,964 TEU. We are talking about theoretical capacities as a function of available slots (cargo spaces) and not actual capacity. This record remains in possession of CMA-CGM (France), which in April 2021 transported 21,433 TEUs on board the ship "Jacques Saadé" (Sánchez, Perrotti and Fort, 2021).

The "Ever Ace" is the first of six Evergreen ships to be delivered by Samsung Heavy Industries shipyards between 2021 and 2022. These are Megamax24 (MGX24) ships carrying 24 rows of containers side-by-side. Its propulsion ensured by a single conventional 11-cylinder diesel engine, designed to operate at a commercial speed of 22.5 knots (EVERGREEN, 2021).

The ship, in terms of innovation, is characterized by the flattened vertical bow, without a bulb, resembling the design of traditional supertanker ships.

The "U-shaped" (0) format has been increasingly used instead of the traditional "V-shaped", allowing hydrodynamic gains and, in particular, an increase in load capacity through the reuse of "dead spaces"

associated with the V-shaped design (Spitzer, 2021). Once again, increasing the ship's carrying capacity is achieved by reformulating the ship's design with no significant change in its main dimensions. The "out-to-out length" remained stable at 400 meters and the beam (width) at 62 meters.



Figure 1. *Flattened vertical bow of "EVER ACE" (EVERGREEN, 2021)*

As an example, Maersk's first Triple-E Vessel, a revolutionary container ship from 2013, with a capacity of 18.000 TEUs, already had an "overboard length" of approximately 400 meters and a beam of 60 meters. In eight years, we managed to increase the capacity of a container ship by 6.000 TEU, without changing its length, just increasing its beam by 2 meters and slightly increasing its draft (Galal, 2015; Wackett, 2016).

The ship will be integrated into the "Far-East" route (Asia/Europe pendular route) and Evergreen expects to use 12 similar ships, weighing 24.000 TEU, to ensure this maritime route, replacing the traditional 14.000 TEU used so far.

So far this paper is merely a collection of information on innovation and the evolution of vessel size. However, we believe that the name "Ever" brings recent bad memories to the reader.

Yes, it was an Evergreen ship, the 20.000 TEU "Ever Given", which ran aground on the Suez Canal just 4 months ago, interrupting International Trade for six days (from 23 to 29 March 2021).

OPERATIONAL ISSUES AND FINANCIAL RESULTS

The "Lloyd's List" estimated the daily cost of the Suez Canal blockage at USD 7.9 billion, but these calculations only considered the costs of financial depreciation of the goods, not considering the

monetary valuation of the synchronization of the upstream and downstream of the Suez Canal. Reminding that the determining problem in logistic terms is not the "transit-time" but the variability of the delivery time (Forbes, 2021).

Until now the market has not managed to recover from the "cascade effect" associated with the blockade of the Suez Canal, which is still one of the reasons given for port congestion, the asymmetry in the positioning of empty containers, and the atypical behavior of the freight market (abnormally high).

The ship is getting ready, like the "Ever Given", to cross the Suez Canal. It left Qingdao (China) on the 29th of July, called at Hongqiao on the 1st of August, Ningbo on the 3rd, Taipei (Taiwan) on the 8th, and Yantian (China) on the 11th and will continue towards the main ports in the North of Europe. Crossing the Suez is not a danger for the "Ever Ace". At this moment, the vessel is about 14.1 meters deep (AIS information of 15 August 2021).

In addition to operational issues, it is important to reflect on the financial results of the main Maritime Operators (0).

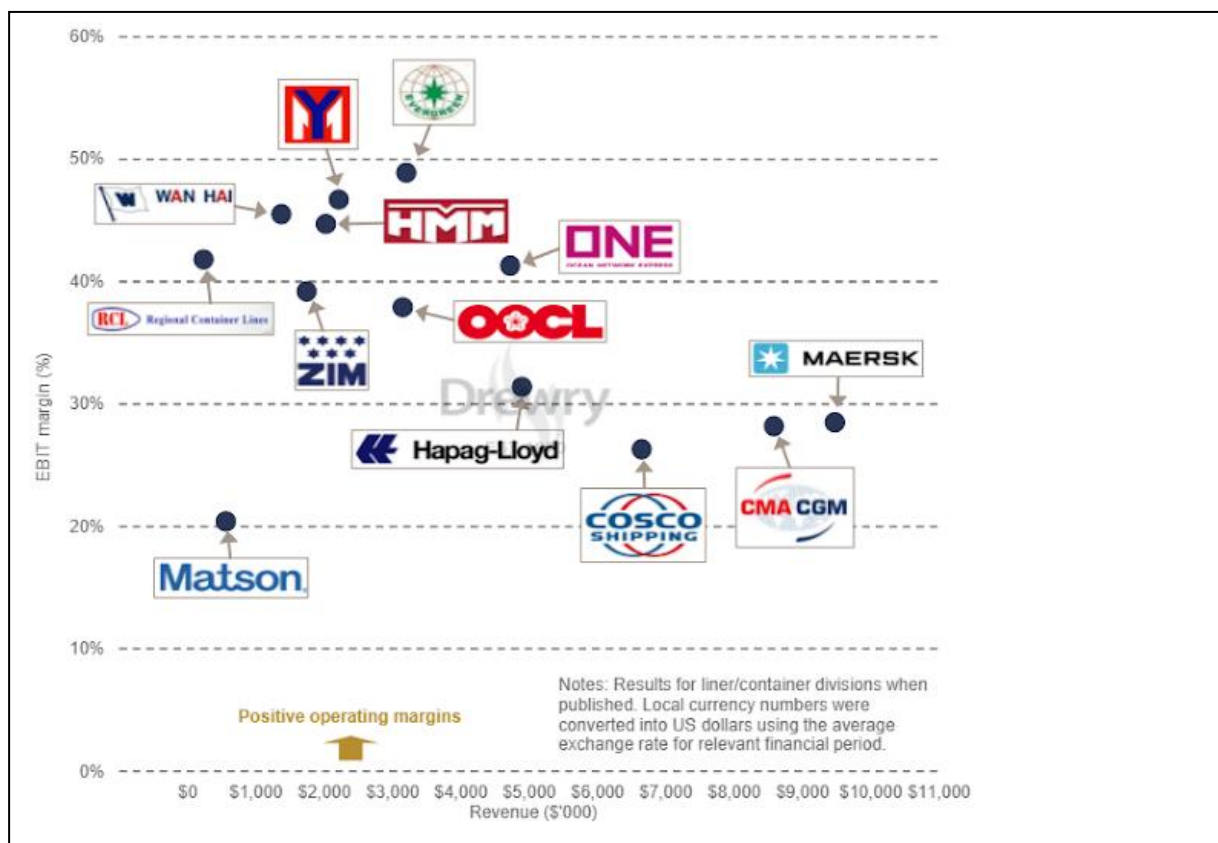


Figure 2. EBIT vs. Revenues from Maritime Operators Containerized Cargo (1st Semester 2021), (Drewry, 2021)

In the case of Evergreen, the results for the 1st half of 2021 were published and it should be noted that Evergreen's revenues reached 6.8 billion dollars, translating into an operating profit of 3.2 billion dollars (EBIT = 48%).

We may question whether the "negotiation marathon" (3 months) held by Evergreen with the ACS - Suez Canal Authority, which resulted in the reduction of the compensation payable from an original amount of around 900 million dollars to a residual (undisclosed) and the acquisition of an additional trailer for the Suez Canal.

The stranding of the "Ever Given" in the Suez Canal is a negative externality associated with maritime transport, whose monetary value amounts to at least 47 billion dollars (Bloomberg, 2021).

In practice, an economic agent (Evergreen), involuntarily, in the exercise of its activity (maritime transport), causes damage to other economic agents (society as a whole) and does not pay compensation for the damage it has caused. This is objectively the definition of negative externality associated with maritime transport (Ryser, Markey and Halseth, 2020).

Stereotypes associated with the country of origin, Egypt, led to worldwide condemnation of the ACS's posture and response to this emergency.

The detention of the ship and the crew without legal basis, the attempt to blame the Captain of the "Ever Given" for what happened, and the initial use of obsolete means in the rescue operation (who doesn't remember the most famous backhoe in the world, which alone unraveling the "Ever Given"), contributed to the general disapproval of the ACS (Chellel et al., 2021).

More in the cold, we have to rethink our analysis and assess who is to blame for the stranding. Is it the faults at an operational level, either in human resources or in technical resources, either on the ship's side or on the ACS's side, or is it due to an entire shipping industry that intends to take advantage, at the limit, of all the economic benefits associated with the SE? We have lost the global perception of the problem. The tree cannot hide from the forest. So whose fault is it?

- Of the final customers of the goods that, of the final price of the products, only a tiny percentage of the costs are associated with maritime transport?
- Of the shippers that for years on end took advantage of maritime freight "for peanuts", never trying to reflect on the real causes of excessively low freight?
- Of the Maritime Operators concerned with achieving economies of scale, to be competitive, neglecting the associated dangers?
- The Market Regulators who successively approved the consolidation processes in the maritime transport market?
- Or from the IMO - World Maritime Organization itself, which has increasingly assumed itself as an organism with little power within the United Nations?

It remains for reflection. Or maybe all are to blame for what happened and will be guiltier if nothing is done. The security of the maritime-port infrastructure is not compatible with the normal functioning of market mechanisms.

Furthermore, if we want a socially efficient market, there must be no market power, internalize all externalities in the market, as well as a fair distribution of monetary votes, bringing the price paid (maritime freight) closer to the real cost of travel.

We should carefully evaluate the reason to celebrate the release of "Ever Ace", learn from what happened during the stranding of "Ever Given" (one of the darkest moments in the shipping industry), and guarantee sustainable supply chain management (SSCM).

SUSTAINABLE SUPPLY CHAIN MANAGEMENT

Supply chain management integrates both physical and information flow movements and tasks, allowing the manufacture and delivery of the product to be handled from the initial supplier to the final customer (Arif et al., 2020).

The key factors of Supply chain management are:

- Flow factor. The control of product, facilities, and data flows.
- Coordination factor. Coordination between firms.
- Factor Stakeholder. Addressing needs of the stakeholders.
- Relationship factor. Management of internal and external relationships.
- Value factor. Creating value in the supply chain, improving productivity and improving final performance.

However, globalization takes it beyond economic issues, highlighting sustainability issues (Seuring et al., 2022). They defined as production that meets the needs of the present without sacrificing the capacity of future generations to meet their own needs (Tronnebati and Jawab, 2020). According to the United Nations Global Compact, (UNCTAD, 2020) the factors of sustainable development are based on three categories that can be defined as:

- The environmental factor that based on several characteristics, which energy demand and CO2-emissions are among the frequently mentioned characteristics (Choudhary et al., 2020; Moshood et al., 2021).
- Economic factor, which taken in the most often, total cost or net revenue as indicators (Das, Jana and Alam, 2022).
- Social factor that has commonly been recognized as the weakest 'pillar' of sustainable development (Wang, 2022). The extension of workplace rights has also centered on health and safety requirements (Tronnebati and Jawab, 2020; Alghababsheh and Galleary, 2021)

In this way, organizations need to produce and deliver their products and services so that they do not impact the environment and do not contribute to social issues while not reducing their profits. This approach motivates the appearance of the SSCM concept (Narimissa, Kangarani-Farahani and Molla-Alizadeh-Zavardehi, 2020).

In line with the increasing relevance of sustainable development, research on SSCM has now reached the mainstream and Core conceptual elements are presented in 0

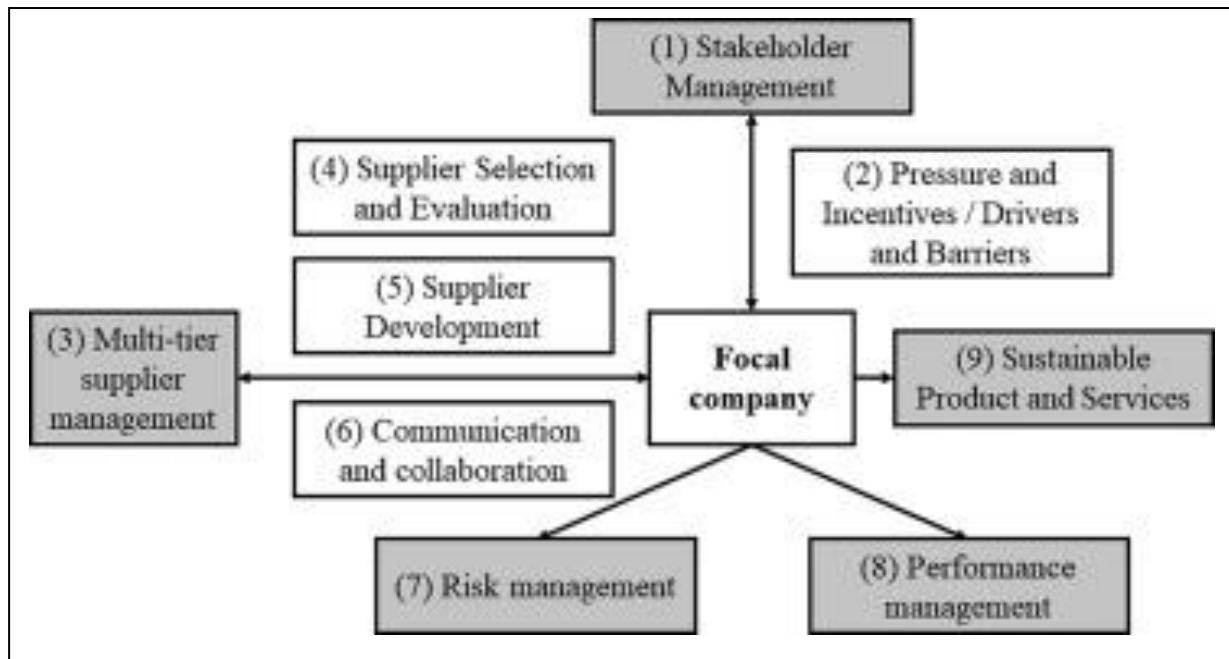


Figure 3. Core conceptual elements of Sustainable Supply Chain Management (Seuring et al., 2022).

The essence of the SSCM concept is ensuring the supply chain processes and technologies address the environmental, social, and economic sustainability aspects and make sustainable significance for all stakeholders (Stroumpoulis and Kopanaki, 2022).

FUTURE RESEARCH DIRECTIONS

The resilience of supply chains, digitization in maritime transport, environmental concerns, and the energy transition will be the other critical success factors in the maritime transport market (Notteboom et al., 2017; Chkoniya, 2021; Kyas et al., 2021). For example, Larger ships imply a longer turnover time spent in ports and a larger available wetted surface area that is susceptible to fouling, thus potentially providing a larger fouling community with more time to propagate and settle in a novel habitat (Bereza, Rosen and Shenkar, 2020).

Even in geostrategic terms, new players are emerging, rising the need to rethink the Sustainable Business Concepts and Practices in the shipping industry. On the one hand, there is a need for the

regulation of the strategic points of maritime traffic. On the other hand, the potential for alternative solutions. SSCM emerged as a niche topic around 20 years ago but moved into the mainstream. Some constructs, like drivers and barriers, are well researched, while stakeholder management issues or supplier development warrant future research. Risk and performance aspects will stay on the agenda, albeit some more critical accounts are needed. The link between digital transformation and sustainable development would be one of the core topics driving change in SSCM. More research on emerging economies and the environmental and social impact of supply chains in such contexts would be welcome (Seuring et al., 2022).

CONCLUSION

Shipping is the life blood of the global economy. Without shipping, intercontinental trade, the bulk transport of raw materials, and the import/export of affordable food and manufactured goods would simply not be possible (International Chamber of Shipping, 2020). On the other hand, sometimes, involuntarily, in the exercise of its activity (maritime transport), causes damage to other economic agents (society as a whole) and does not pay compensation for the damage it has caused. This is objectively the definition of negative externality associated with maritime transport. Similar to “Ever Given” case, we have to rethink our analysis from SSCM perspective and assess who is to blame for the stranding. Is it the faults at an operational level?

SSCM has been developed for decades as a solution for multi-level social and environmental improvement, becoming a strategic concern for organizations to achieve a sustainable future (Narimissa, Kangarani-Farahani and Molla-Alizadeh-Zavardehi, 2020). SE also has many perspectives and generally has been introduced for investigating sustainability at multiple levels. Organizations are informed and encouraged by management theories to build their supply chain strategies at the SSCM-SE nexus, including stakeholder theory, institutional theory, nature resource-based view, amongst others (Allen, Zhu and Sarkis, 2021).

The security of the maritime-port infrastructure is not compatible with the normal functioning of market mechanisms. Furthermore, if we want a socially efficient market, there must be no market power, internalize all externalities in the market, as well as a fair distribution of monetary votes, bringing the price paid (maritime freight) closer to the real cost of travel. We should carefully evaluate the reason to celebrate the release of “Ever Ace”, learn from what happened during the stranding of “Ever Given” (one of the darkest moments in the shipping industry), and guarantee sustainable supply chain management.

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A GENDER ANALYSIS OF ITALIAN FOOTBALL: A MANAGERIAL, ECONOMICS AND SOCIAL APPROACH

Davola, Nicola; Vicentini, Francesca; Mura, Rita

IUSM (universita' del Foro Italico), Rome, Italy

ABSTRACT

The paper analyses gender differences in Italian Football with a three level approach including managerial, economics and social aspects. This enables a more realistic comparison between male and female football and eventually permits to develop a purpose built model to enhance female football. We adopt a new methodology of accounting for human capital in sport considering the overall economic impact of a player on the success of her team. Reconsidering, also on the basis of social and inclusiveness criteria (i.e, considering cooperative behaviors, capability of inclusion, and so on), the items included in traditional accountancy practices, we partly fill the gap between the economic performances of female and male societies. This should allow to reconcile the evaluation of female and male teams. Furthermore, we want to understand if different evaluations of success for male and female teams stem from stereotypes or from actual performances. We use both surveys and experiments to measure how the level of appreciation of different gender performances depends on technical characteristics, expectations or preconcepts. In the experiments equivalent performances of different gender are submitted through video clips to gender constellations of supporters, players, coaches and managers. Survey elicit motivations and perceptions in male and female teams. Also the degree of involvement in decision making and strategies implementation by gender is considered with its potential effect on profits and popularity. The stemming indicators are applied to balance sheets items to produce a fairer comparison between the value added produced by different genders in football.

Keywords: Business, Accounting, Corporate governance, Inclusion, Gender Diversity

INTRODUCTION

This study represent the first step of my phd research aimed at analyze the gender gap in football in our time, taking in consideration both the human and economic aspect that influenced the development of this sport.

Gender analysis born in the United States in the late 1970s, is understood as a social construction, changing in space and time, which assigns a series of appropriate behaviors, adjectives, pre-determined characteristics, to men and women. It is a set of expectations, behaviors, representations

and self-representations, practices and actions that it is worth to carefully be reconsidered for sports where biological and physical limits could play a role. There could be sports more "suitable" for males or for females but this distinction is less relevant considering a wider perspective of their contribution in the process of education, social inclusion and general involvement that characterize sports in general. Of course performances, cost and revenues matter but they should be accounted considering also the more intangibles benefits for a society of some practice. This is certainly relevant for policy makers that have to account for those issues when incentivizing sport activities.

The different dimensions of the gender gap in the sports space therefore should be reconsidered and balanced also in economic terms on the basis of their overall contribution in societies (broadly considered) development.

We believe that this reevaluation of private and social costs and benefits could contribute smoothing gender discrimination and hinder equal opportunities in sport in general and in football in particular what is the purpose object of the current analysis.

In the following we aim at analyzing:

1. Gender corporate governance in men's and women's football societies respect to business corporations;
2. Gender human capital evaluation of men's and women's in football societies respect to business corporations;
3. The role of gender biases when evaluating the value added and performances of men's and women's in football societies.

1. GENDER CORPORATE GOVERNANCE IN MEN'S AND WOMEN'S FOOTBALL SOCIETIES

Analyzing the balance sheets of companies, it is noted that despite the fact that women's football produces much lower revenues than men's, it has healthier balance sheets with lower losses and a greater proximity between football as a sport and that understood as a profession and business. Moreover, looking at women's football leagues in various countries around the world, significant differences emerge both in terms of football played and in terms of popularity, inclusiveness and economic feedback, as well as governance.

From a strictly **corporate point of view**, the comparison between women's and men's football clubs highlights the lack of influence that women have when considering strategic decisions of football societies (Fine, & Sojo, 2019) respect to other kind of business independently from their education and experience in the field. The absence of minorities representative (especially women) in football leadership is in fact astonishing in European countries. Bradbury, Van Sterkenburg and Mignon, 2014

report that in the more relevant football clubs in Europe the 98.5% of CEO/Director are White men, 1.5% are White women; whereas looking at Senior management positions 80.3% were white men, 18.4% white women and 1.3 men minorities. In particular, in German Bundesliga 100% of CEO/Director are men and looking at senior management positions 100% were white men and 9% white women; in Spanish Primera League 100% of CEO/Director were white man and in Senior management positions 90.8% white men and 9.2% white women; in French Ligue 1, 100% of CEO are white men and in Senior management position 85% were white men and 12.5% white women and 2.5% minority men; in Italian Serie A, 100% of CEO were white men and in Senior management position 87.4% white men and 12.6% white women. Even if Italy has shown a strategy for the development of women's football and set up both a dedicated committee and a women's football department (FIFA 2019a), currently there are no representatives from the women's football sector sitting in the NA's executive committee, of which of 21 members only one is female (FIFA 2019a).

Relevance of the study and expected results After some years of experience of such a model for boards composition it is worth to understand how the constraint has been interpreted by business and sport companies and the contribution that this inclusion implies for different categories of enterprises.

We plan to compare data stemming from SPA with those of the corresponding (i.e. of the same sector) not quoted companies to answer to the following questions:

- Are business Spa benefitted of Law imposition (rosa quotas) more than sport management Spa?
- Did they just respect legislation or open to more diversity as a consequence?
- What are the cultural and experience characteristics of the rule in business sector? Are they different from football Spa composition characteristics? And from not Spas in both sectors?

Our analysis will collect actual evidence and potential differences in recruiting women in the Board of Directors based also on their level of education and experience in the field.

Empirical setting

In the first step of the analysis we will collect data about the structure of the corporate governance of different companies both business and sportive, quoted and not quoted in a comparable sample. This will allow us to analyze differences in terms of number, culture and education characteristics, between quoted business enterprises and quoted football enterprises and between quoted and not quoted football enterprises.

The analysis of the impact of diversity on company decision making will be made looking at actual decision, before and after the Law requirement. To this aim we will refer not only to national and international official documents as the ethical code, the self-regulatory code, but also to documents that the law imposes to respect like the corporate governance code and some good practices that could

be deducted from the balance sheet of the company, especially referring to management reports. Additionally, we collect data from a survey in which we identify cultural and social characteristics of woman in Boards, both in business and football.

The analysis of characteristics (education, specialization, and so on) of both men and women in the different Boards will be implemented looking at official public data on CVs.

To elicit individual different characteristic by gender, we submit to CdA participants of a bunch Italian companies a purpose made questionnaire including some tasks aimed at eliciting risk and ambiguity aversion (Holt and Laury, task), willingness to cooperate (Prisoner dilemma game), generosity and strategic behavior in sharing (Dictator and Ultimatum game), intertemporal preferences (Harrison task) and propensity to trust (Berg game).

To consider the role of different (pay) incentives (evidence from Bandiera, Fisher et al, 2021) in women football respect male colleagues (compared to an average Premier League pay of a man of around 2.64 million pounds, that of a woman belonging to the equivalent division, the FA Women's Super League, is equal to 26,752 (Sporting intelligence, 2017), we will elicit motivation in equivalent teams of football male and female players. Since the role of women in football is expressed also by women managers, female coaches and female audience we will add to our survey a questionnaire purpose built for each of those categories in order to shed better light on the corresponding motivations to be involved at each stage in football activities and we interview the female participants to the Board of Directors.

2. THE OVERALL ECONOMIC EVALUATION OF WOMEN'S AND MEN'S FOOTBALL: A MODEL ACCOUNTING FOR ECONOMIC AND SOCIAL DIFFERENCES

In football (as in many other team sports) the success of a team strongly depends on a cocktail of several ingredients beyond the actual investment in human capital including their social impact. This explains the evidence that even if a direct connection between the investment in human capital made by a football firm and its economic and sportive performance exists, not always the richest teams are the most successful. Factors such as capability to play together, inclusion and interactions play a crucial role and should be considered (Mubrik, Chandran, & Devadason, 2018), to enlarge the concept of economic human capital and give a wider overall evaluation of a society.

We suggest to apply a new methodology for accounting also the actual and perspective contribution of human capital to the value of a football team. The development of a set of behavioral indicators permit in fact to adjust balance sheet items to better express the economic and social value of a football team. Furthermore, these adjustments allow for a better comparability of the female and male football team balance sheet results.

Broadly speaking traditional accounting procedures (historical cost, opportunity cost, economic-income methods, replacement cost-based methods for professional football players) do not include the value added of interactions and of the overall vision (Gibbons, & Waldman, 2004) neither consider individual characteristics and ability in each role. The evaluation of possible outcome from alternative allocations of resources is particularly complex when considering human capabilities and their potential impact: selecting the right people in the right position allows to gain a powerful competitive advantage that should be carefully evaluated. Individual innate skills, educational path, work experience remain key factors; however, there are several indirect factors that could strongly affect performances and therefore should be measured and included in firms' evaluation.

Moreover, this kind of evaluation disregards the evidence that the economic outcome of a football team depends also on its popularity, its interaction with the followers and the social environment on which operates. To measure those effects new accountancy indicators are needed: for example, García et al. (2021) suggest employing the social network success as measure to evaluate the popularity of a player and his/her influence on the firm result and market.

Our idea and suggested methodology to evaluate the human capital in football describes instead the value of a person (in our case the football player) as the result of all the tasks she is able to perform individually and in group at present and possibly in future.

This new methodology accounts not only for the influence of players during the championship, both in terms of sportive performance and other aspects, as popularity, but also in terms of contribution to build up social and performances connections.

Starting point of our analysis is the consideration of different studies that compare the investment of a team with the financial and sportive results of the same team.

To properly evaluate the relationship between the investment in human capital and the sportive and economic performance of a team, we should take into account the effect of financial performance (Galariotis et al., 2018), technical/tactical resources of the team and management (more precisely the turnover) of the club (Cunningham, & Sagas, M., 2004), the club's business model and the type of governance (ownership), the board structure and the CEO features and ownership characteristics (Ruta et al., 2019; Wilson et al., 2013; Acero et al., 2017); also the relationship with the environment, popularity and relation with followers (Pujol e Garcia del Barrio, 2007) could be powerful drivers of good (bad) performance.

In line with the recent recommendations and best practices by the EU policy makers which suggest the implementation of both environmental and social sustainability (PNRR), the economic evaluation of a football team should be reconsidered including, also and foremost, its capability to be a mean of

inclusion and furthermore accounting for the value that the firm is able to produce both for actual society and future generations.

The purpose is to apply this setting both and separately to women and male football and to compare their economic results.

Empirical setting:

The proposed methodology of evaluation of a football player starts from a modification of its historical cost by taking in consideration the human aspects of his/her performance in a given year. This modification accounts for several correctives that could not be implemented through artificial intelligence and machine learning and in this respect is superior to those referred to them.

First we suggest to ask different groups of experts to evaluate through scales (1-10 → % of economic amortization) the performance of a player. This allows to reach a multi-dimensional index of evaluation of his/her performance that should be linked to the modification of the value of the player in the balance sheet.

Every method should take into account the popularity of the player, expressed through an index that represents his/her contribution to the economic results of the team and its improvements that creates an increase or decrease of his value that is indicated in the balance-sheet (the acquisition cost of the football player.)

Third we should consider in the amortization cost of the player the educational path that synthesizes the level of capabilities reached by a player related to his maturity, his past results and his actual age.

These correctives could be significant in reducing the gap between male and female soccer, in which the individual economic results are less important respect to the contribution to popularity that players bring to the professional team and the message of a football team grounded not only on the economic results but also the social impact of football instrument in terms of developing values such as difference inclusion and gender equality. In this respect, the lack of a defined regulation represents an occasion to develop a new system of accountancy evaluation that could be adopted not only by large firms, but also by association or young team which want to develop these issues in future.

In particular, we should take into account and try to analyze how the innate characteristics of male and female could influence their value in the balance sheet.

3. BEHAVIORAL AND PSYCHOLOGICAL ASPECTS OF GENDER DIVERSITY IN FOOTBALL

Literature showing gender stereotypes, including preconceptions of what women and men are like, with men being perceived as agentic, assertive, aggressive, and bold, while women are expected to be emotional, nurturing, kind and cooperative (Haines et al. 2016). Experiments have shown also women

more fair oriented in division making and quicker in learning (Di Cagno et al., 2017). Moreover, different gender composition of a group may lead to different level of cooperation Rapoport and Chammah (1965) and Di Cagno et al., (2017) found that female pairing cooperate more than mixed gender pairing. Another issue should be also what is the optimal composition by gender (and other kind of diversities) of a better performant leadership group. Those stereotypes lead women to have difficulty in obtaining positions that are also characterized by male attributes because people in charge observe a lack of fit between gender attributes and position attributes (Heilman and Caleo, 2018). Put differently, women are seen being less likely to occupy leadership position since role (in)congruity theory (Eagly and Karau, 2002) leads to women being rated less favorably to occupy leadership roles. Moreover, the lack-of-fit model (Heilman 2001; Heilman and Caleo 2018) suggests a gender bias in performance evaluations resulting in expectations of poor performance of women in leadership positions when coping with ambiguities in organizations and complicate decision-making. All these dynamics of treatment discrimination can result in negative evaluations of women's leadership also in sports (Paustian-Underdahl et al., 2014), and especially in football. They could be seen instead, and become, a powerful asset since they make leaderships able to benefit from diversity both in terms of good management and through it, showing more trustworthiness and sustainability in the market, ultimately favoring market position and funds attractiveness.

Empirical setting

The methodology that will be used to answer the research questions combines the statistical analysis of data collected through questionnaires (online) to different target populations and those collected through laboratory experiments aimed at identifying beliefs and expectations, evaluations and opinions on women's football compared to men's.

Since the work aims to highlight the effects of the inclusion and development of women's football at corporate and sporting level and to analyze gender differences in football (both from a technical point of view, in decision-making and in collective choices) the integrated use of the statistical methodology with the experimental one will make possible to separate the gender component from other demographic and contextual variables, something that is not possible with real world data. It is in fact complex to find in the reality situations observations comparable in different sectors for homogeneous and heterogeneous groups in gender.

In particular, it will be carried out:

- A collection of statistical data relating to men's and women's football that will serve to describe the individual and market characteristics of professional teams and to measure the gender gap in Italy and in other European and non-European countries.

- The submission of a questionnaire (incentivized) to an heterogeneous sample of the population of some European countries. This allows to evaluate and quantify the economic, environmental and behavioral components linked to women's football. Specifically, questions will be asked relating to the ability to include, to integrate, to generate business in women's football. The survey also aims to establish the level of knowledge, diffusion, popularity and opinions regarding women's football and men's football. This data collection will be carried out using the Prolific platform on an international scale. The questions in the questionnaire will be mainly qualitative and analyzed with specific tools, such as association measures, hypothesis tests for qualitative variables and regressions for discrete and categorical data (probit, logit, ordered probit and logit, multinomial logit).

- A quantification of the "gender bias" in the evaluation of the players through a laboratory experiment in which the participants are asked to evaluate similar sports performances of male and female players through appropriately chosen video clips. This will make it possible to distinguish the effect of the evaluation of the calculator on the basis of the gender of the evaluator and the evaluated. These evaluations will be expressed through a Likert scale (1932).

The results thus obtained will be studied by means of a regression analysis for ordered probit or logit data. The model to be estimated is

$$y_i = \beta_0 + \beta_1 dT + \beta_2 dS + \beta_3 (dT \times dS) + \epsilon_i$$

Here y_i is the observer-participant's subjective assessment of the player's performance; dT and d are indicator variables that take value 1 if the evaluator and the athlete, respectively, are female, 0 otherwise; $dT \times dS$ is an interaction variable that takes value 1 if both the evaluator and the athlete evaluated (a) are female, 0 in all other cases. Furthermore, β_0 is the intercept of the model; β_1 can be interpreted as the differential effect of the observer's gender on the evaluation; β_2 is the differential effect on the evaluation between female and male players; β_3 represents the effect on evaluation when both the evaluator and the athlete are female. Finally, ϵ_i is an error term. The hypotheses that will be subjected to empirical verification are:

- 1) No gender difference ($\beta_1 = \beta_2 = \beta_3 = 0$);
- 2) Female gender evaluators do not judge female and male players differently ($\beta_1 + \beta_3 = 0$);
- 3) Male gender evaluators do not judge female and male footballers differently ($\beta_1 = 0$);
- 4) The differences between female and male gender values not by the evaluator's gender ($\beta_3 = 0$).

Proceeding working through a meta-analysis approach, we would like to implement:

- 1) A field experiment (Harrison and List, 2004) that allows to quantify the effects in terms of perception and confidence, of social integration and performance improvement, of some possible nudging strategies (Thaler and Sunstein, 2008) aimed at reducing gender diversity.

The analyzed nudging strategies will be deduced from the questionnaire discussed above. For

this purpose, two women's soccer teams will be used as participants: the women's and men's 11-a-side football As Luiss and the women's 5-a-side football team of the OXIGENE and TOR SAN LORENZO football associations, which represent two different inclusion projects, based on different object of development. The choice of a university team and a team with popular shareholding will make it possible to decompose the two aspects of social integration, the educational one and the territorial one. For the fans, the sample of Luiss Guido Carli students enrolled in the Orsee database will be used (Greiner, 2004).

- 2) An assessment of the economic impact on a corporate and social level of some scenarios of imitation or differentiation of women's football from men's aimed at increasing the visibility and relevance of women's football through some simulations.

4. RELEVANCE OF THE STUDY AND EXPECTED RESULTS

The relevance of the proposed study lies in the methodological approach suggested for analyzing a research topic of increasing interest both from an economic and social point of view. This will be done in several stages.

In the first phase of the research, the collection of data (statistical, survey and experimental) relating to women's football will be carried out and its evolution at a temporal, territorial and cultural level will be analyzed. This will be done taking into account the multiple components and multiple actors that this sports sector involves. In particular, the relative data will be analyzed:

- 1) to the players (numbers, technical and role characteristics, performance, territorial mobility, salaries, sponsorships;))
- 2) to coaches and technical support staff;
- 3) to the management and ownership of the teams;
- 4) the characteristics of the supporters (composition, attention, preparation, perception of the phenomenon, beliefs and expectations);
- 5) to the supervisory authorities and responsible for organizing events both nationally and internationally.

In the second phase of the survey, the database built will be analyzed through estimates in terms of the gap between women's and men's football (in economic, technical, cultural and political-social terms).

In the third phase we propose, in light of the results of the second phase, to formulate a development model for women's football and to evaluate its impacts on individuals, football clubs and the reference community, with particular attention to the effectiveness of dissemination women's football as a tool

for reducing inequalities not only in terms of gender, but also economic-cultural, social and health protection.

5. WORK IMPACT

From the analysis of the data, we expect to be able to assess whether it is the investment differences or the cultural ones or both that explain the different development of women's football.

At the policy level, our investigation will allow us to identify which development model is most appropriate for women's football: should we aim at imitation or differentiation from the men's football model?

As a first approximation, the inequality of the balance sheet makes us think that women's football should focus on the aspect of differentiation and on the social aspects of the phenomenon but a deeper analysis should be done.

Finally, we set ourselves the goal of analyzing whether the reduction of "gender diversity" that has been taking place at company level in recent years in many sectors will be also possible through women's football.

Through this first research I recognize that the perception of differences between woman and man is strongly decreased in the mind of people but this change have to be realized also in the matter of fact. Starting from this point I would like to develop through an experiment a correct system of training that can be used to woman soccer, applying some modification respect to male football.

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WHEN IMPOSSIBLE BECOMES POSSIBLE: THE ATYPICAL CO-BRANDING STRATEGY OF SWATCH AND OMEGA

Draskovic, Nikola¹; Markovic, Milivoj²; Samardzija, Jasminka²

¹Digital Marketing Department, Algebra University College, Zagreb, Croatia

²International Business Department, RIT Croatia, Zagreb, Croatia

ABSTRACT

As an untypical co-branding strategy, the recent launch of the Omega x Swatch MoonSwatch collection created significant hype among customers. Bringing together Swatch, a brand that helped save the Swiss watch industry during the quartz crisis, and Omega, a legacy Swiss brand with a long tradition, Swatch Group initiated an unexpected collaboration between two brands with significantly different price points. On the day of the product launch, the MoonSwatch collection was available only at selected Swatch stores that were stormed by customers keen to get their hands on the novelty. This paper aims to provide strategic insight into the co-branding partnering between Swatch and Omega. Furthermore, this paper intends to shed some light on the potential strategic implications of this bold strategic move, specifically, how a collaboration of two brands within the same product category can affect the partnering brands. With Swatch profiting from this co-branding, it is questionable how it will affect Omega's image. There is a risk that the plastic watch bearing an Omega logo can harm the image of a brand positioned to compete with high-end brands such as Rolex. However, MoonSwatch can also act as an intermediary to introduce Omega to younger generations and as an Omega entry point for aspirational consumers who cannot afford the authentic Omega Seamaster. Additionally, this strategic partnering can also be examined from the perspective of the emerging smartwatch crisis that has already caused the Swiss watchmaking industry sales to decline.

Keywords: co-branding, asymmetrical co-branding, unexpected collaborations, branding strategy, business strategy, Swiss watch industry, Swatch, Omega, MoonSwatch, smartwatch crisis

INTRODUCTION

This paper aims to provide strategic insight into the Swatch Group's atypical business strategy that recently resulted in the launch of the Omega x Swatch MoonSwatch collection. Furthermore, this paper intends to shed some light on the potential benefits and outline possible pitfalls of this bold strategic

move, specifically, how a collaboration of two brands within the same product category can affect the partnering brands.

For the first time in the past two decades, the Swiss watch industry recently produced internet buzz and thrill among watch enthusiasts and everyday users. In March 2022, Swatch launched the Omega x Swatch co-branded Speedmaster MoonSwatch collection comprising eleven different coloured versions. The MoonSwatch borrowed the design from the iconic Omega Speedmaster, while the movement and building materials are of the Swatch origin. Also, the price of USD260 is more common for a Swatch timepiece, while Omega usually keeps the price point above USD 4000 – 5000. Nevertheless, some customers waited up to 22 hours outside selected Swatch shops to get their hands on the new collection – a scene typical for Apple's product launches and something not happening to Swatch for the past twenty or thirty years. Since the initial sales of the MoonSwatch took place in only a few selected physical stores, the limited quantities were sold out in a matter of hours (R. Corder, 2022). The hype created around this product line's launch and its very limited availability caused resellers to offer MoonSwatch timepieces on eBay and other resale sites for more than ten times their original price (Sen Gupta, 2022).

The co-branding effort of Swatch and Omega storms the market by surprise. Giving consumers the impression they are getting their hands on an iconic Omega timepiece for just a fraction of the Omega Speedmaster's price, what they get in reality is a plastic watch that resembles some of the Omega Speedmaster's design features. While it is still too early to judge the success rate of this co-branding effort and how it will impact the Swiss watchmaking industry, it raised some eyebrows, and initial sales results are beyond expectations. On the other hand, this bold move of the Swatch Group can be considered a case of a business model redefinition aimed at changing consumer habits and shifting from traditional timepieces to smartwatches.

This paper follows a qualitative research approach, analysing various secondary data used to build a case study. While the Swatch Group's co-branding strategic move that is the focus of the paper is very current, historic analysis is also included in order to provide more of a context needed for a proper interpretation of the business and marketing strategies applied by Swatch and Omega. Additionally, this paper follows an inductive approach aimed at the potential development of new theories rather than a deductive.

THE RATIONALE OF A CO-BRANDING STRATEGY

The primary purpose of branding is to create an emotional response, which can result in sales by shaping how consumers view a company or product's image and its foundational purpose (Malinic,

2019). Although the ultimate goal of branding is to provide long-term support to sales, successful brands can create strong connections resulting in loyal customers.

Within the body of literature, multiple definitions of co-branding can be found, more or less precise and restrictive. For Rao *et al.* (1999), co-branding as a term covers all instances in which two or more brands are presented jointly to the consumer. Similarly, Washburn *et al.* (2000) consider co-branding as the pairing of two or more branded products (i.e. constituent brands) to form a new and unique product or composite brand. For Erevelles *et al.* (2008), co-branding represents a strategy of presenting two or more independent brands jointly in the same product or service. Gammoh *et al.* (2010) consider co-branding as a deliberate choice by the company to connect two or more brands, communicate that connection to consumers, and achieve important goals that neither brand could achieve as effectively or efficiently independently.

While a brand is usually considered a key company asset assisting its competitiveness, it is somewhat paradoxical to share it with another company with the risk of diluting its value (Smith and Lewis, 2011; Radighieri *et al.*, 2013). As a way of collaboration between two parties, co-branding is not limited to the product but can also include marketing communications, services, public linkages or distribution channels (Voss and Gammoh, 2004). However, there are other types of partnerships between companies, such as ingredient branding, brand alliance, co-promotion/advertising and dual branding. For example, when Coca-Cola included Stevia sweetener as a replacement for sugar in their beverages, it was a case of ingredient branding. This type of collaboration is typical for complementing brands, with one main brand (or host brand) and the ingredient brand becoming a part of it providing improved market outcomes for the end product (Swaminathan *et al.*, 2012).

Co-branding is meant to exploit the synergies by linking two brands to advance the product's market position (Newmeyer *et al.*, 2018). One of the primary reasons for the growing appeal of co-branding is the possibility of achieving multiple goals with a single co-branding approach/alliance. The literature points to several reasons why a co-branding strategy would benefit the co-branded product. Among the main reasons for co-branding that literature points to are enhancement in consumer perception of the brand (Abratt and Motlana, 2002), transferability of positive image association from better-known brand to lesser-known brand (Levin, 2002), and particularly sales growth (Paydas Turan, 2021). Furthermore, brands have been coupled based on the co-branding partners' resource complementarity to develop a brand, especially increasing its value (Washburn *et al.*, 2004). It is rational for a lower tier brand to increase brand value by leveraging the value of an already established brand through a co-branding alliance (Gammoh, 2006).

Of the various goals that co-branding can achieve, a common denominator for essentially all is growing sales. This becomes even more important if the individual brands are in a mature industry with

stagnating growth prospects. Leveraging two brands, in this case, might positively impact consumer tastes and even open a doorway toward identifying a new market segment or a niche.

THE TYPOLOGY OF A CO-BRANDING

Unfortunately, there is no universally accepted typology of co-branding within the academic literature. For example, Hadjicharalambous (2006) recommended two primary types of co-branding: horizontal and vertical. Horizontal co-branding refers to cases where both partners in the co-branding project belong to the same value chain level and collaborate with similar or complementary resources (Chiambaretto and Gurau, 2017). On the other hand, vertical co-branding refers to the collaborations in which brands are on different levels of the value chain. This is usually referred to as ingredient branding. This type of consideration creates inevitable confusion since ingredient branding works in the way of pointing out a strategically important product ingredient that is responsible for the product's functionality, which some authors do not consider a form of co-branding (Kotler and Pfoertsch, 2010).

Furthermore, a common distinction is made between symbolic co-branding and physical/functional co-branding (Lanseng and Olsen, 2012). The term physical or functional co-branding describes collaborations in which one of the brands is used as an ingredient or component in the host brand (Chiambaretto and Gurau, 2017). On the other hand, symbolic co-branding does not require integration at the production level (Lanseng and Olsen, 2012).

Bouten (2010) suggested three types of co-branding: symbolic co-branded products, ingredient branded products and co-branded hybrids. While the first two categories are being defined in the aforementioned typologies, co-branded hybrids represent a category with the highly innovative product "that combines two previously independent product categories that create a new product category" (Bouten, 2010, p. 29).

Chiambaretto *et al.* (2016) focused their investigation on co-branding agreements between direct and indirect competitors, stating the nature of the agreement (hybrid vs symbolical) and the type of partners (direct vs indirect competitors) as the key determinants. In this context, hybrid co-branding involves the mutual use of both intangible (e.g., brand name, logo) and tangible (e.g. technology, ingredients) partner resources (Lanseng and Olsen, 2012). On the other hand, symbolic co-branding is limited to the joint labelling of a product that results in the mutual brand image transfer (*ibid*).

While referring to these agreements between competitors as coopetitive branding, Chiambaretto *et al.* (2016) developed the following four distinctive categories: (1) symbolic coopetitive branding between direct competitors; (b) symbolic coopetitive branding between indirect competitors; (c) hybrid

coopetitive branding between direct competitors and (d) hybrid coopetitive branding between indirect competitors.

Due to inconsistency of co-branding typology and lack of standardisation, we would like to propose an additional one considering partnering brands' equity and the targeted market compatibility between the brands. As Winzar *et al.* (2018, p.639) suggest, brand equity is “an abstract affective construct, not directly measurable, that is contained in the minds of consumers...It is what customers feel”. Brand equity is the main driver of brand value, which is a construct of how consumers relate to the brand and the actions (e.g., purchases) of consumers (Bick, 2009). Decisions about the targeted market segment are part of the overall company's marketing strategy. The decision on which segment or segments to target depends on the market segment's attractiveness, type of product, brand's competitiveness, competition and target market specifics, like brand preferences or purchasing power (Pavicic *et al.*, 2014).

Bringing it all together, we can distinguish between symmetrical, asymmetrical and atypical co-branding agreements or strategies.

Symmetrical co-branding

Symmetrical co-branding represents the most common and most natural type of collaboration between the two brands. In this case, both brands have relatively similar equity and popularity among consumers. Brands may address slightly different market segments but have similar price points within their product categories. Their positioning strategy can also be similar, and they can share similar brand values. Typical examples of symmetrical co-branding are Apple Watch and Nike, GoPro and Red Bull, and Louis Vuitton and BMW.

Asymmetrical co-branding

Asymmetrical co-branding contains a certain disbalance between the partnering brands. Brands have different relative price points and target utterly different target audiences. Furthermore, the brand positioning and brand equities can have a significant difference. Typically, asymmetrical co-branding involves two brands of different market strategies. For example, one brand can target the high-end market, while the second can be a mid-range brand. Common examples of asymmetrical relationships in co-branding are LG and Prada, Versace and H&M, and Alexander Wang and H&M. Within this type of set-up, the mid-end brand usually benefits from the high-end brand image spillover.

Atypical co-branding/unexpected collaborations

The atypical co-branding category covers the examples of brand collaborations that came as a surprise to the market and consumers because of brand incompatibility or because brands are direct competitors (coopetitive branding). In other words, atypical co-branding refers to the cases of brand collaborations that do not follow common marketing strategies and have a particular pioneering role. The success of

these unexpected collaborations between brands usually relies on a clear link that works as a bridge between brands (Gunnarsson *et al.*, 2021). Good examples of atypical co-branding are Covergirl (make-up, target: females) and Lucasfilm (Star Wars, target: males); T-Mobile and Taco Bell, and McDonald's and Burger King.

THE CASE OF SWATCH AND OMEGA CO-BRANDING

The innovative history of Swatch

Resembling the fast fashion business model, Swatch is a brand that emerged as a response of the Swiss watch industry to the quartz crisis (Draskovic *et al.*, 2018). The quartz crisis refers to the critical point in time for the Swiss watchmaking industry caused by the appearance of low-priced wristwatches with the quartz movement produced by Seiko, Casio and other far east competitors in the 1970s and early 1980s (Glasmeier, 1991). Interestingly, the Swiss watch industry was seriously threatened by the technological innovation it already possessed but failed to commercialise (Donzé, 2015). Consumers embraced the type of wristwatches, moving away from traditional Swiss made watches with mechanical movement. Unfortunately, the Swiss watch industry was too rigid to embrace the new technology, with resulted with strategic drift (Sammot-Bonnici, 2014)

The Swiss watch industry managed to recover and compete successfully with the far east competition after the introduction of Swatch, a new brand of Swiss-made watches with quartz movement (Donzé, 2014). Rather than following the price competing strategy with the Far Eastern producers, Swatch reinvented how a timepiece should be considered. Relying on the basic principles of the fast fashion business model, Swatch launched numerous regular and limited collections that were intended to last for a short time until substituted with a fresh collection (Draskovic, Markovic and Petersen, 2018). Introducing fun and the concept of a throw-away watch, Swatch became a fashion item. Nevertheless, Swatch kept the country-of-origin effect in focus, and the "Swiss Made" became an asset for both differentiation and a higher price point (Taylor, 1993).

Mainly thanks to the Swatch, the Swiss watch industry recovered in terms of quantities sold on the world market in the mid-1980-s (Donzé, 2014). However, Swatch was not just an innovative product and a successful marketing story but also a result of production process innovation. Although the idea behind Swatch was not to compete with low prices, the Swiss watch industry significantly improved production efficiency, which resulted in the production costs decrease (Garel, 2015). Furthermore, Swatch introduced plastic casings instead of traditional casings built from metal, together with a significant reduction in the number of parts needed for the full functioning watch with a quartz movement (Tushman and Radov, 2000).

The legacy of Omega

The roots of Omega can be traced back to 1848, when Louis Brandt founded a watchmaking company in La Chaux de Fonds, Switzerland (Roth, 2021). In 1877, his sons Louis-Paul and César joined the company, resulting in the company's name being changed to Louis Brandt & Fils (WatchTime, 2019). In 1894, the company developed a new movement that was known as the Omega calibre, which became a global success thanks to its accuracy and ease of repair (Roth, 2021). Due to the calibre's success, the company name was changed to Louis Brandt & Frère – Omega Watch Co. By the early 1900s, Omega's annual output reached around 100,000 watches, making the company one of the biggest watch manufacturers in the world (FHH, 2022).

In 1905, Omega became the official timekeeper at sporting events in Switzerland. While in 1932, the company became the official timekeeper for the Olympic Games in Los Angeles, which resulted in a partnership that lasts even nowadays (Precision Watches & Jewelry, 2018). Following the Great Depression that began in 1929, the Swiss watchmaking industry consolidated, which led to the forming of conglomerates, with Omega joining SSIH (Société Suisse pour l'Industrie Horlogère) in 1930 (Mudambi, 2005).

Omega also took part in NASA's space program and was the first watch to be used in space and during the landing on the Moon. In 1964, NASA issued a request for high-quality chronographs to various watchmakers (Malaysia, 2021). Just a few companies responded, and one of them was Omega, which gave its Speedmaster chronograph for endurance and accuracy tests. Finally, Omega Speedmaster passed the tests and became the official NASA watch for space flights and the first watch on the Moon worn by the Apollo 11 astronauts (Mazzardo, 2021).

Due to the quartz crisis and the Swiss watchmaking industry restructuring, a merger of SSIH and ASUAG, the two biggest Swiss watchmaking conglomerates, happened in 1983. This resulted with the forming of SHM (Société Suisse de Microélectronique et d'Horlogerie) which will change its name to Swatch Group in 1998 (Childs, 2010). Omega was positioned as a high-end brand within the newly formed entity to directly compete with Rolex (Wegelin, 2010).

In the 1990s, a successful collaboration (co-branding) between Omega and the James Bond franchise started, with the actor Pierce Brosnan wearing the Omega Speedmaster (Precision Watches & Jewelry, 2018). This collaboration improved the image and increased Omega's popularity globally. In 1999, Omega also proved to be an innovative brand by introducing the co-axial escapement that significantly improved the reliability of the mechanical movement (Omega, 2022).

The MoonSwatch collaboration of Swatch and Omega

On March 26, 2022, selected Swatch outlets started offering a new product line named Omega x Swatch MoonSwatch. This "unexpected, provocative and visionary partnership" between Swatch and Omega

represents a collaboration between luxury and street brands, intending to "blend the best of both worlds" (Swatch Group, 2022). The line comprises 11 models, each representing a planetary body, including the Sun, nine planets (including Pluto) and the Moon. While the MoonSwatch design borrowed several elements from the iconic Omega Speedmaster, the casing is made of patented bioceramic material, a mix of two-thirds ceramic and one-third material derived from castor oil (Swatch, 2022). Sold at USD 260, it is a wristwatch with quartz movement and a Velcro strap. The initial batch of MoonSwatches has been sold out, with Swatch claiming the collection would be widely available since it is not a limited edition (Bowers, 2022). Due to the hype and very limited availability of the product, the MoonSwatch hit price records on the resale market for more than ten times its original price (Sen Gupta, 2022).

While customers are still waiting for stores to be restocked with the MoonSwatch and online sales yet to come, the demand for the new collection tremendously exceeded the supply. However, it is difficult to consider if that was a brilliant marketing strategy or a marketing flop. As Nick Hayek, CEO of the Swatch Group, stated, the strategic decision to join two successful brands from the corporation's portfolio was made nine months before the launch (Christensen, 2022). However, it is still unclear why the quantities were limited since it is not a limited edition and the product is not discontinued.

Despite the hype and anticipation, some customers started expressing disappointment with the new MoonSwatch. Some users reported that the new watch is leaving dye stains on their wrists, which left some of them believing they had their hands on a fake watch (Love, 2022). There are also reports about scratches appearing on the watch crystal upon unboxing the new watch (Li, 2022). So far, Swatch only officially addressed the dye stains problem, stating that "the pigment is not hazardous to skin, non-toxic, so this effect is completely harmless for the wearer," that the occurrence is "very, very rare," and that necessary measures are already taken to address this issue in the production process (De Wei and Hoffman, 2022). On the other hand, some level of disappointment also arises from the plastic feel and lightness of the MoonSwatch, together with the crown and pushers that feel and look cheap (J. Corder, 2022).

However, despite a certain level of criticism among the users, MoonSwatch has found its place in consumers' hearts. Furthermore, the launch of the Omega x Swatch MoonSwatch collection also played a particular strategic role. In terms of publicity and internet buzz, the launch of MoonSwatch stole the show away from the Watches & Wonders exhibition in Geneva, usually considered the most important event for the watch industry (Pitsch, 2022).

DISCUSSION AND CONCLUSION

The introduction of the Omega x Swatch MoonSwatch collection is an obvious example of co-branding but asymmetrical in its nature. With Omega belonging to the upper tier of brands, Swatch is a typical street or mid-end brand. This asymmetrical and unexpected collaborations (Gunnarsson *et al.*, 2021) are becoming quite common lately, with collaborations such as Apple and Hermès, Louis Vuitton and Supreme or Versace and H&M, to name a few. However, in the case of MoonSwatch, we have an example of co-branding partnering within the same product category and between brands with the same ownership. This way, this co-branding partnering can be considered unique and less common.

Although branded as Omega x Swatch, product specification and the price point reveal the true nature of this co-branding project. It is definitely a Swatch collection, inspired by the iconic design of Omega Speedmaster and paired with the patented bioceramic as the casing material. Technically, this can be considered an example of symbolic co-branding, with Omega just sharing its logo and layout. While Swatch is obviously profiting from this relationship, the critical concern is how it will affect Omega's image. Regarding luxury watches, the right partner selection has been shown to influence purchase intentions positively. However, this is the case where partners combine complementary resources, such as a luxury watch brand partnering with an established technology company to market a co-branded smartwatch (Moon and Sprott, 2016). The evidence is less clear when looking at horizontal alliances between brands from different market tiers. There is always a risk that the plastic watch bearing an Omega logo can harm the image of a brand positioned to compete with high-end brands such as Rolex (Smith and Lewis, 2011; Radighieri *et al.*, 2013). Potentially, MoonSwatch can act as an intermediary to introduce Omega to younger generations and as an Omega entry point for aspirational consumers who cannot afford the authentic Omega Seamaster.

Nevertheless, the current position of the Swiss watch industry, and especially of the Swatch Group, is far from ideal. Due to its traditionalism, the Swiss watch industry overlooked the development of another potential watch crisis, similar to the quartz crisis that almost brought the whole industry to extinction. This time, it is the emergence of the smartwatch technology that Swiss industry professionals did not recognise as a threat to the traditional industry focused on quartz and mechanical movements (Deloitte, 2017). Consequently, Apple with the Apple Watch has outsold the entire Swiss watch industry in the number of units shipped during the last quarter of 2017 (Strategy Analytics, 2020). This negative trend continued in the following years, and currently, Apple sells more watches than the entire Swiss watch industry on a yearly level, without any sign that this trend will change (Tech Desk, 2020; Sky News, 2020). The Swiss Watch industry does not present a real rival for the Apple Watch to this day. Consumers switching to smartwatches are commonly moving away from low-end and mid-end brands. This market development definitively made a negative impact on

Swatch sales. However, although MoonSwatch shook the market and increased demand for Swatch, it is difficult to believe that this kind of bold strategic move will make significant difference in declining sales of the Swatch Group and the entire Swiss watchmaking industry.

This paper extends the relatively limited academic discussion about unexpected collaborations between brands or atypical co-branding. It advances propositions that co-branding strategy can have on the overall sales results and brand perception by collaboration between brands with completely different price points but from the same product category. It is still too early to anticipate if this atypical co-branding effort represents the beginning of a new trend and redefinition of current business models or if it is just a test of a marketing concept. Nevertheless, the market has an initial positive reaction. Potentially, the collaboration between brands, like in Swatch and Omega's case, can create an entirely new market segment of buyers looking for a viable substitute for a luxury product. While it is difficult to describe the MoonSwatch as an affordable luxury product, its design and branding give buyers sufficient reason to pay a premium price for a low-end plastic watch.

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A LITERATURE REVIEW OF TAX AUDIT EFFECTIVENESS FACTORS, THE CASE OF GREEK TAXATION AGENCIES

Drogalas, George¹; Karagiorgos, Alkiviadis²; Lois, Petros³; Koumpidou, Agapi⁴

¹Department of Business Administration, University of Macedonia, Greece

²Department of Business Administration, International University of Greece, Greece

³School of Business, Department of Accounting, University of Nicosia, Cyprus

⁴University of Macedonia, Greece

ABSTRACT

The difficult and unstable economic conditions, which prevail after 2020 in combination with rapidly changing economic and tax environments, concern international fiscal policies. Due to legal complexity, different state procedures and successive amendments to tax laws, the international tax scene gave rise to significant academic interests. The increase and difficulty of tackling financial crime, and tax evasion exacerbates issues managed by a comprehensive and effective tax system. In this regard, a fundamental goal of state fiscal policy is the adoption of a number of sub-objectives, the exercise of management through new techniques and methods, the intensification of tax audits, the introduction of new more effective tax measures or the strengthening of existing ones. The purpose of this research is to investigate tax audit, as well as the factors of the latter's effectiveness. Fiscal control is considered one of the most important tools of governments to protect their public revenues and therefore a means of success of their economic policy. Therefore, it is very important for a country to develop and upgrade its tax system to build a relationship of trust with taxpayers. Effectiveness ensures compliance with the tax code to perpetuate tax equality. It is very important that public services and the competent tax auditors are able to make the most of innovative information systems.

Keywords: Tax audit, Tax auditors, Taxpayers, Tax administration, Regulation, Information control systems, Taxation, Effectiveness, Tax Agencies, Fiscal Policies, Greece

1. INTRODUCTION

Tax audit refers to those procedures undertaken by the respective and responsible bodies, with the aim of checking the implementation of tax legislation, the keeping of accounting books, the validity of financial data, the reliability of tax information, as well as the omissions that contribute to non-submission of tax obligations (Alifantis, 2016). In a similar vein, Oyedokun, (2016) points out, that the tax audit, as carried out by the officials of the competent tax authorities, lies in the inspection of the

files and financial affairs of a taxpayer, in order to ensure that the amount of tax payable is in accordance with tax laws and regulations. In the same vein, Kirchler, (2007) points out that tax audit is a survey conducted by the tax authority to verify the accuracy of tax returns and secondarily to detect taxpayer behavior and non-compliant activities.

In this context, it is understood that tax audit focuses on the one hand on the taxpayer's compliance with tax standards and on the other hand on the assessment of the correctness of tax data and the timely fulfillment of obligations by taxpayers (OECD, 2006).

In addition, it is worth noting that the final purpose of tax audit is to collect all the necessary data, which contribute to the correct assessment of the position of the audited entity and the determination of the liabilities of the audited persons (Negakis and Tachynakis, 2013). It is also characteristic that the tax audit depending on its frequency is divided into preventive, temporary, regular - mandatory regular and special audit. More specifically, tax audit plays a key role, as its accuracy largely depends on the accurate determination of net income and the fairer distribution of the tax burden (Dalamagas, 2000).

Finally, according to Fortsakis (2002), tax audits aim to verify the accuracy of tax returns. The same applies in case of non-submission of a tax return or in the evidence of the tax liabilities of the auditee. The examination should be based on the data obtained from the detailed and not the summary examination of the kept accounting records and data, and from the analysis of its overall financial situation.

2. LITERATURE REVIEW

2.1 Tax control and efficiency

The multidimensional purpose, which tax audit is called to fulfill, also points out its importance and necessity, as one of the most important tools of the tax system in terms of economic, social, regulatory and control variables (Gubar et al., 2015). In addition, since tax audit is a key feature of the voluntary compliance mechanism, its importance is immediately apparent in increasing citizens' tax compliance, which is achieved, among other things, through the significant contribution of higher auditors (Allingham and Sandmo, 1972).

At the same time, the fact that the audit gives credibility to the financial statements of companies, which are exploited by a number of stakeholders, such as shareholders, investors, analysts, highlights the crucial importance of the audit. Moreover, in this direction is supported by the fact that before any purchase, acquisition or merger between companies, there is an audit (Karamanis, 2008).

At the same time, it is characteristic that the effective tax audit creates the sense of tax justice, because the prepared audit report is the fundamental basis of the administrative judicial crisis, but also of the amicable settlement of disputes (Kazantzis, 2006).

According to Chalu and Mzee (2018) on the factors that affect the effectiveness of tax audit, it was observed that there are mixed results and different variables that express the factors of its effectiveness. In addition, according to Okello, (2014) it is a fact that tax audit faces a number of challenges, such as the use of manual risk analysis, limited access to information for third parties, the dominance of the examination of all tax returns, the choice of audit based on the judgment of senior officials, as well as the national strategy and plan of the central staff for the operation of tax audit.

In addition, special mention should be made of the research conducted by Bosco Harelimana (2018) in which they focused on the effect of tax control on revenue collection in Rwanda. The purpose of this study was to determine the impact of tax control on revenue collection in Rwanda. To address the research questions, the authors surveyed 110 Rwandan Revenue Authority respondents and categorized the study into factors such as tax administration, tax revenue performance, revenue protection system, and tax automation analysis. demonstrate how they affect revenue collection. The research findings indicate that tax administration, tax revenue performance, revenue protection system and tax automation analysis have a positive effect on revenue collection. Therefore, the tax audit really affects the collection of income, since there is a significant correlation between the tax, collected before and after the audit. Thus, it is clearly implied that tax control increases revenue collection. The lattes could be translated as that the more tax audits are carried out, the more revenue is collected.

2.2 Tax Audit and Taxpayers

Regarding taxpayers, it is typical that tax audit aims to enhance their compliance with tax legislation on the basis of self-assessment (Chen, 2013). In particular, tax audits have a specific deterrent effect on audited taxpayers, while at the same time they have a general deterrent effect on taxpayers who are not actually audited (Khadijah Isa and Jeff Pope, 2011). In this context, the majority of taxpayers undertake obligations, such as tax registration, timely and valid completion of tax returns on time, proper reporting of tax liabilities and timely payment of taxes (OECD, 2014).

Nurebo, Lekaw and Mariam (2019) studied the effectiveness of tax control in Kembata in southern Ethiopia. The aim of their research was to assess the factors that affect the effectiveness of tax audit and whether tax audit strengthens tax administration. Both qualitative and quantitative research methods were used to carry out this research. The sample of respondents selected for the survey was 146 of whom 106 answered. The results showed that administrative support, quality of control, taxpayer awareness and the standard integrated government tax management system have a

statistically significant positive effect. on the effectiveness of tax audit, while on the contrary tax complexity, tax accounting and reporting have a statistically significant negative effect on its effectiveness. The investigation concludes, recommending the competent authority to simplify the field of complex tax laws and to encourage taxpayers, who state that they use a relatively good accounting system by assessing the tax in their accounting records and not by valuation. In addition, the survey concludes that taxpayers are associated with the effectiveness of tax audit and play a significant role.

From the above the following hypothesis is carried out:

H1: Taxpayers are not linked to the effectiveness of tax audit

2.3 Tax Audit and Legislation

In addition, an equally important study was conducted by Blaufus, Schöndube and Wielenberg (2020), who sought to highlight the impact on tax audit effectiveness as well as the strategic interactions between tax, auditors and different information regimes. In particular, the authors in their article consider the extent to which tax regimes become more effective if (i) financial statements are audited and (ii) if tax auditors have access to statutory internal audit reports that disclose information about statutory (statutory) control adjustments. This analysis is based on a typical tax compliance game, which extends to model the strategic interaction between a financial and tax reporting company, a statutory auditor, and a tax auditor. Thus, it was found that the effectiveness of the tax audit affects the additional information, which depends on the strength of the auditor's tax incentives and the weight that companies place on the entry books. Furthermore, the article states that for the high-powered incentives of the tax auditor, no effect is taken on the efficiency measures.

In contrast to the medium-term incentives of tax auditors and companies that place great emphasis on revenue books, the effectiveness of tax audits increases if the tax auditor has access to additional information, while low-power incentives are distinguished by an ambiguous effect. Optionally, the article points out that giving the tax auditor access to internal statutory audit reports increases corporate tax compliance, increases tax revenue and reduces the frequency of tax audits.

Drogalas, et.al. (2015) focused on the effectiveness of tax audit in Greek companies, citing the perceptions of tax auditors. More specifically, due to the frequent changes in tax audit procedures, tax administration and tax policy, the previous research tried to examine the relationship between the effectiveness of tax audit, tax legislation and the use of specialized information system tools. On this basis, they used the ability of public tax auditors to monitor tax violations as a measure of the effectiveness of tax audit. In this context, about 200 questionnaires were constructed and distributed to tax auditors, who worked in the Greek public tax services. The results of the research showed that the use of information system tools can allow tax auditors to properly monitor tax violations, thus helping

to increase the effectiveness of tax audit. The article also points out that the constant changes in tax legislation prevent tax auditors from being effective in their work, while stressing the need for political intervention, simplification of tax legislation and better training of tax auditors in the use of information systems.

From the above the following assumptions are made:

H2: Legislation is not related to the effectiveness of tax audit

2.4 Tax Audit and Tax Auditors

Tax auditors are responsible bodies for conducting audits, in order to verify the reliability of taxpayers' statements. At the same time, the extent of the tax liabilities of taxpayers who fail to follow certain procedures and submit the required declarations, as defined by law, also falls to the competent bodies (Theocharopoulos, 2007).

In this context, the most important responsibility of tax auditors is to prepare the audit report. More specifically, in the exercise of this competence, tax auditors are required to prepare a written text, in which they must express their opinion, regarding the extent to which the audited information complies with the audit criteria. Furthermore, the importance of the tax auditors' report, in addition to shaping their findings, contributes substantially to the auditor's communication with those parties that are legally or conventionally users of his opinion, thus contributing substantially to various financial decisions. (Arabatzidis, 2015). In addition, the importance of the work of tax auditors is further extended, as through it tax auditors can train taxpayers on the implementation of tax laws, identify improvements required for record keeping and identify areas of tax legislation that taxpayers need clarification (OECD, 2006).

On this basis, it is understood that the thorough and continuous training of tax auditors is an urgent need, so that the quality of financial reporting and control of business organizations is constantly improving (Barta, 2018). In this context, auditors should be free from prejudice and equipped theoretically and practically with experienced knowledge, in order to formulate a correct and objective opinion and to help build an effective audit activity capable of dealing with the risks it faces. the entity and government regulation (mechanism) (Hobbs, 2013).

Equally important research was conducted relatively recently by Akhand (2019), who examined the impact of the corporate sector on the effectiveness of compliance tax authorities. Specifically, Akhand in this article explored the impact of the corporate sector on the effectiveness of selected tax compliance instruments within large corporations, as taxpayers belonging to the financing, manufacturing and services sectors. Applying multi-level models based on actual tax office data and surveys from Bangladesh, corporate compliance was found to be affected by penalties, tax audit and services for taxpayers, while reporting compliance was affected by tax audit. and tax simplification. In

case of payment compliance, two coercive instruments, penalties and tax audit, were found to be statistically significant. However, when the characteristics of the sector as well as the extent of influence these instruments, are taken into account, their statistical significance changes in some cases. This suggests that the effectiveness of fiscal compliance instruments, among other things, depends to a large extent on the sectoral connection of corporate taxpayers.

In addition, study how important a variable is tax auditors for the effectiveness of tax audit. Overall, Akhand concludes that this study establishes the importance that the corporate sector plays in the effectiveness of fiscal compliance instruments, as well as the extent to which tax auditors influence tax audit.

From the above the following hypothesis is carried out:

H3: Tax auditors are not linked to the effectiveness of tax audit

2.5 Tax audit and Control information systems

Ayalew (2014) investigated the factors that affect the effectiveness of tax control, studying the tax revenue administration of the Ethiopian city, Bahr-Dar. The purpose of this study was to investigate the factors that affect the effectiveness of tax control between taxpayers and tax auditors. In order to take a thorough and holistic approach to the issue, questionnaires were sent not only to the tax auditors but also to the taxpayers. Thus, after random sampling of tax auditors and taxpayers, 333 questionnaires were answered, collecting a total of 1518 observations. The results showed that there is no negative statistical significance in the relationship between the audited characteristics and the effectiveness of the tax audit, while at the same time they pointed out that there is no positive statistical significance between the organizational framework, the support of the top management and the effectiveness of the tax audit. Finally, the researcher concluded that there is a very important positive relationship between the quality of control, organizational independence and the effectiveness of tax control.

H4: Public control information systems are not linked to the effectiveness of the tax audit

2.6 Tax audit and tax administration

Regarding the tax administrations, it is worth mentioning that they have adopted, as the main purpose of their operation, ensuring the compliance of citizens and businesses with the tax laws. This purpose as well as the efficiency with which the tax services fulfill their mission has always been a matter of high priority for governments (Alm and Duncun, 2014).

The need to ensure the effectiveness of the tax administration, both in terms of citizen compliance and the balance of administrative expenditure in relation to the revenue collected, highlights the need to identify the elements that a tax administration must have in order to be successful (OACD, 2017). More specifically, as Emmanuel (1990) characteristically points out, although there is no universal way for

the proper and proper administration of organizations, an effective tax administration-principle should be distinguished from a proper implementation between the environment and its subsystems. Respectively, Bird (2010) emphasizes that political willingness, a clear strategy and sufficient resources are the key components, which are necessary for effective tax administration. In a similar vein, Kayaga (2007) emphasizes that automation alone does not necessarily improve tax administration, as the combination of political willingness and an effective management system is deemed necessary.

It is understood, therefore, that the smooth execution of the work of the tax administrations becomes imperative, given that the development and presence of a weak tax administration can create unfair competition between taxpayers and at the same time fail to address its tax problem. tax evasion (OECD, 2006).

At a similar level, Chalu and Mzee (2018) investigated the determinants that affect the effectiveness of tax control in Tanzania. For this reason, they studied the possible factors in an organized way, dividing them into four categories: organizational, tax auditors, taxpayers and regulators. More specifically, the survey was supported by 225 auditors in 23 different tax districts of Tanzania, where data were collected using electronic questionnaires. The findings of the study showed that there were five key critical factors that affected the effectiveness of tax audit. The first factor that was found was the implementation of the recommendations of the tax auditors by the administration. The second factor was the adequacy of the tax audit department, which was in the category of tax auditors, while the third factor was the attitude of taxpayers, which is in the category of taxpayers. Finally, the fourth and fifth factors, respectively, were the availability and implementation of regulations and standards for tax audit as well as guidance and tax policies for tax audit, elements, which were found in the category of regulations. In addition, research suggests that, in practical terms, tax administrations (authorities) may rely heavily on tax auditors, as well as regulations and policies, for the effectiveness of tax audits. In addition, the article concludes that the tax administration is a critical variable of tax control as it significantly affects and is associated with its effectiveness.

From the above the following hypothesis is carried out:

H5: The tax administration is not related to the effectiveness of the tax audit is rejected.

3. CONCLUSIONS

It is a fact that the extremely difficult economic environment that prevails today, which is constantly and rapidly changing, has significantly affected the business, which is now complex and demanding. For this reason, these difficult requirements of economic reality make tax control a decisive factor because through audits, states manage their finances efficiently and effectively. In this work, therefore,

the analysis of tax control and their effectiveness is done as we simultaneously investigate the factors that affect it. The tax audit of companies is the most important means of combating tax evasion, while it contributes significantly and to a large extent to the correct, fairer and more efficient management of government revenues and expenditures.

For this reason we conclude that tax control is considered and is one of the most important means of governments to protect their public revenues and therefore a means of success of their economic policy. Therefore, it is very important for a country to develop and upgrade its tax system so as to build a relationship of trust with taxpayers. Despite the extensive research and the very useful and effective questionnaire as it turned out, the present dissertation is subject to restrictions as the research collected opinions only from tax experts so the results can be characterized as unilateral. In addition, the research is based only in Greece, so the goals for future research are to collect opinions from accountants as well as companies that experience taxation and finally to look for data from other countries so that we have complete data to conduct a more thorough research.

Some suggestions for future research are to provide comprehensive training to tax auditors so that they are more credible and efficient, as well as the need for a unified tax system, standardization of audit procedures and consistent tax legislation. The creation of a stable tax system will strengthen the tax conscience of taxpayers and will provide a climate of cooperation and restoration of tax justice. In addition, the adoption of a tax system will ensure compliance with the tax code by every taxpayer so that there is equality in the taxation of individuals. In addition, it is very important for the public services and the competent tax auditors to make the most of all the technological possibilities with new innovative information systems that will effectively help in the effective process of tax audit.

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DEVELOPING A TOOL FOR CALCULATING THE CARBON FOOTPRINT IN THE DAIRY INDUSTRY

Eleftheriadis, Iordanis; Anagnostopoulou, Evgenia; Karathodoros, Georgios

Dept. of Business Administration, University of Macedonia, Thessaloniki, Greece

ABSTRACT

Consumption of dairy products has increased during the last decades and it is expected to increase in the future due to the increase in global population. The highest environment impact of the dairy industry is associated with the production of raw milk, the processing of dairy products and the production of animal feed. The aim of this study is to provide a design for a tool that will be used for calculating the carbon footprint in the dairy industry. We will use the Life Cycle Assessment (LCA) methodology to develop a greenhouse gas (GHG) inventory for every process in the LCA of dairy products. Additionally, we will map all the data necessary to estimate the carbon footprint of dairy products, including the stage of milk production. For illustration purposes we will use cheese as a representative dairy product. The design provided includes the processes of raw milk production, feed production and milk processing.

Keywords: Life Cycle Assessment (LCA), Dairy Sector, Carbon Footprint, System Boundaries, Emission Scopes, Information Systems.

INTRODUCTION

One of the biggest challenges that we face today is anthropogenic climate change, caused by global warming which is the result of high greenhouse gas (GHG) concentrations in the Earth's stratosphere. The excessive use of fossil fuel resources, such as coal and lignite, oil and natural gas, the combustion of which releases vast amounts of CO₂ into the atmosphere as well as the intense livestock farming which contributes to increased methane and nitrous oxide emissions, coupled with deforestation which decreases the Earth's absorbing capacity of GHGs, they have irreversibly disturbed the balance in the GHG cycle. Negative impacts on ecosystems and human populations are already being observed and they could potentially lead to even more global warming and further environmental, social and economic implications.

In this context, most industries are called upon to reduce GHG emissions. However, in order to set emission reduction targets and monitor their performance according to those targets, companies need to calculate their GHG emissions. The most established indicator for GHG emissions is the Carbon Footprint (CF). Currently, there are three types of CF: the Corporate CF, used to measure total emissions at company level, the Project CF, used to measure emissions associated with a specific project

and Product CF, which is used to measure the emissions related to the life cycle of a particular product or series of products.

A Product CF is based on the Life Cycle Assessment (LCA) methodology. LCA is a method of assessing the environmental impact of a service or product over its lifetime. It examines all the stages of a product life cycle: the acquisition of raw materials and other inputs necessary for the production of the product, the production process, the distribution and storage of the product, the use of the product or service and the final disposal of the product, while at each step it focuses on inputs and outputs, such as raw materials and waste. The environmental impacts included in a full LCA include, but are not limited to, climate change, water use, land use, toxicity, eutrophication and biodiversity, while a Product CF focuses on one impact category, climate change (IDF, 2015).

An LCA study records all the inputs and outputs associated with a particular product (which is often referred to as the functional unit) within defined system boundaries. The functional unit is defined as the performance characteristics and services provided by the product in study. The Product CF methodology presented in this paper is based on the guidelines developed by the following organizations:

1. The GHG Protocol and the Product Life Cycle Accounting and Reporting Standard.
2. The International Organization for Standardization (ISO), responsible for ISO 14040, 14044 and 14067, which are the initial standards for calculating carbon dioxide footprint for products.
3. The Intergovernmental Panel on Climate Change (IPCC), the leading body for the assessment of climate change, established by the United Nations Environment Program (UNEP) and the World Meteorological Organization (WMO).
4. The European Environmental Agency (EEA), which has developed the air pollution emission inventory guide in 2019, which provides technical guidance for emission calculation in the Member States.

This study focuses on the Product CF of a specific industry, the dairy sector and it elaborates on the methodology used to compile a Product CF inventory for raw milk production and dairy product production. In this particular study we will focus on the production of cheese. The following guidelines which have been developed specifically for the dairy industry will also be used in this study:

1. Greenhouse Gas Emissions from the Dairy Sector: A Life Cycle Assessment, developed by the Food and Agriculture Organization of the United Nations (FAO)
2. A common carbon footprint approach for the dairy sector, developed by the International Dairy Federation (IDF)
3. Scope 1, 2 & 3 GHG Inventory Guidance, developed by the U.S. Innovation Center for U.S. Dairy (ICUSD).

4. Product Environmental Footprint Category Rules (PEFCR) rules for dairy products, developed by the European Dairy Association (EDA).

The aim of this study is to provide the basic design for an information system capable of calculating the CF of dairy products. This study is part of a project funded by the Hellenic Ministry of Development and Investments and the European structural and investment funds. The purpose of the proposed project is to create a system for collecting and analyzing data on the carbon footprint of a product during its life cycle. The rest of the paper is structured in the following way: The next section reviews some studies on the carbon footprint of the dairy sector. Then we discuss the methodology employed and record the data sources needed for the CF emission inventory. Finally, we provide the basic design of the system developed for calculating the CF of dairy products.

GHG EMISSIONS IN THE DAIRY SECTOR

Consumption of dairy products has increased during the last decades and it is expected to increase in the future due to the increase in global population. According to FAO, almost 666.5 billion kg of milk was produced globally in 2015, 30 percent more than in 2005 which suggests an average 2.8 percent growth in global cow milk production per year (FAO and GDP, 2018). GHG emission have also increased by 18 percent between 2005 and 2015 because of the growth in the overall milk production and in 2015 they were estimated to be 1,711.8 million metric tons of carbon dioxide equivalents (CO₂ eq.) (FAO and GDP, 2018).

In the dairy industry, emissions result mainly from enteric fermentation, during which methane is produced as a by-product of the digestion process and manure management, which also results in methane and nitrous oxide emissions. Additionally, emissions such as carbon dioxide which is associated with energy use, production of the dairy products and transport of raw materials and final products, as well as emissions which are related to land use and land use change are also taken into account. According to FAO and GDP (2018), the breakdown of total emissions from milk production in 2015 was: 58.5 percent methane from enteric fermentation, 29.4 percent carbon dioxide and nitrous oxide from feed production, processing and transport, and 9.5 percent methane and nitrous oxide from manure management.

Several studies have examined the environmental impacts in the dairy industry using the LCA methodology. Some studies have examined the dairy industry as a whole (Djekic *et al.*, 2014; Finnegan *et al.*, 2018; Mahath *et al.*, 2019; Egas *et al.*, 2020; Tarighaleslami *et al.*, 2019; Berton *et al.*, 2021; Clune *et al.*, 2017). Other studies have focused on specific dairy products, such as cheese (Gonzalez – García *et al.*, 2013a; Kim *et al.*, 2013; Palmieri *et al.*, 2017; Canellada *et al.*, 2018; Bava *et al.*, 2018; Santos Jr *et al.*, 2017;

Van Middelaar *et al.*, 2011; Laca *et al.*, 2021; Dalla Riva *et al.*, 2017) or yogurt (González-García *et al.*, 2013b; Üçtuğ *et al.*, 2021).

Majority of the above studies conclude that the highest environment impact of the dairy industry is associated with the production of raw milk (Berton *et al.*, 2021; Egas *et al.*, 2020; Palmieri *et al.*, 2017; Gonzalez – Garcia *et al.*, 2013b; Canellada *et al.*, 2018; Bava *et al.*, 2018; Finnegan *et al.*, 2018; Santos Jr. *et al.*, 2017; Djekic *et al.*, 2014; Kim *et al.*, 2013). Other sources that contribute to increased GHG emissions are energy consumption in the processing phase (Kumar *et al.*, 2021; Finnegan *et al.*, 2018; Gonzalez – Garcia *et al.*, 2013b; Bava *et al.*, 2018; Dkeloc *et al.*, 2014; Van Middelaar *et al.*, 2011) and animal feed production (Canellada *et al.*, 2018; Dalla Riva *et al.*, 2014; Dalgaard *et al.*, 2014; Morais *et al.*, 2018; Wang *et al.*, 2018).

In this study we will examine the production of raw milk and focus on enteric fermentation and manure management, which are both considered a major source of GHG emissions associated with the production of raw milk (FAO and GDP, 2018; Dalgaard *et al.*, 2014; Morais *et al.*, 2018; Sejian *et al.*, 2018; Wang *et al.*, 2018; Laca *et al.*, 2020; Kim *et al.*, 2013). We will also examine GHG emissions related to the processing phase of raw milk and production of dairy products at the dairy factory.

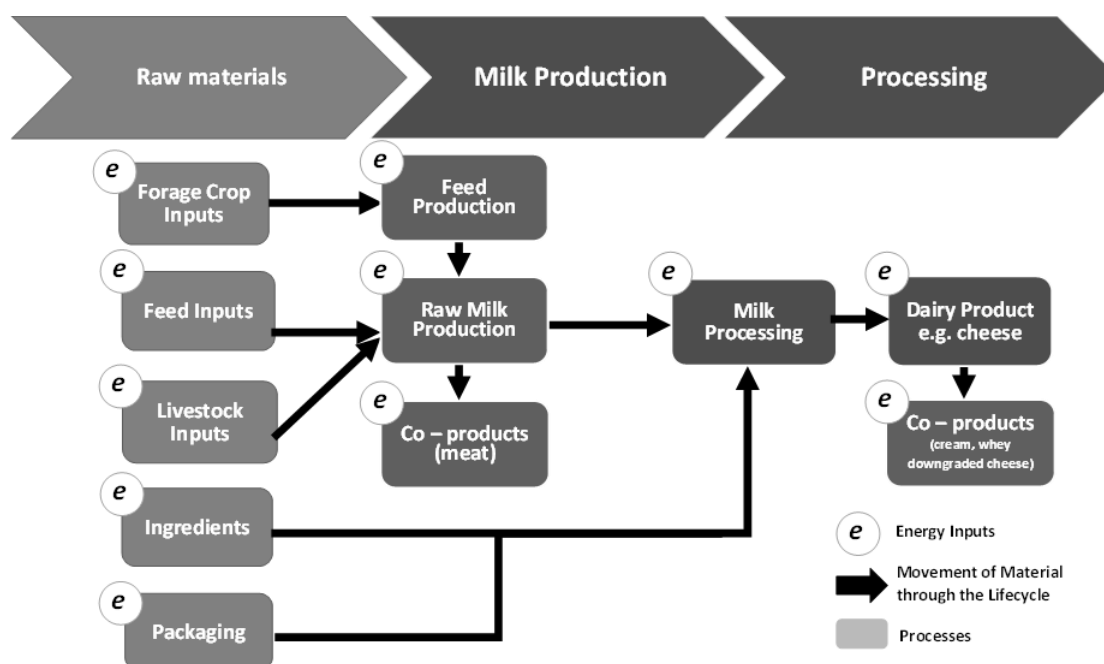


Figure 1. Process Map for Dairy Products (adapted from IDF (2015))

METHODOLOGY

This section analyses the methodology used to compile a GHG inventory related to the production of raw milk at the farm and the production of dairy products at the dairy factory. For our study we have

chosen cheese as a representative dairy product. We will begin with explaining the different approaches of LCM and continue with mapping the processes for raw milk production and cheese production. We will also define the respective functional units, the system boundaries, the emission scopes and sources and map the data needed to calculate the GHG emissions for each.

LCM Methodology

The different types of LCM are: cradle-to-grave, which includes the entire life cycle of the product from the acquisition of raw materials to the final disposal (end – of – life) of the product, cradle-to-gate, which starts with the acquisition of raw materials and finishes with the final product at the factory gate, and cradle-to-cradle, which focuses specifically on the recycling stage. This type of lifecycle management focuses more on product design so that they can be part of another use and not be disposed of as waste. In this study we will use the cradle-to-gate methodology. This includes the processes of raw material acquisition, milk production, and dairy processing. It starts at the creation farm inputs and stops at the factory gate after the representative final product has been created (in our case, cheese). A representative process map, adapted from IDF (2015) is presented in Figure 1.

As we have discussed above, the production of milk is responsible for the largest portion of GHGs in the production of dairy products. Therefore, it is crucial to take into account the factors in milk production that affect the carbon footprint and allocate the emissions from milk production between the final dairy products and the co-products (in the case of cheese, possible co-products include cream, whey, downgraded cheese etc. while in the case of raw milk production, the major co-product is meat). Several allocation rules have been developed according to the type of the co-product. The IDF (2015) guide for the life cycle assessment methodology for the dairy sector and the EDA (2018) guide for the environmental footprint for dairy products contain the basic allocation rules for the production of dairy products.

With regard to the functional units of this study, the functional unit for the production of raw milk is usually one kilogram of fat-and protein corrected milk (FPCM), at the farm gate. The FPCM basis is used to make comparison between farms possible (IDF, 2015). It is calculated by multiplying milk production by the ratio of the energy content of a specific farm's milk, to the energy content of standard milk with 4% fat and 3.3% true protein content (Figure 2):

$$PCM \left(\frac{kg}{year} \right) = Production \left(\frac{kg}{year} \right) * [0.1226 * Fat\% + 0.0776 * True\ Protein\% + 0.2534]$$

Figure 2. Formula for calculating the functional unit for farming (IDF, 2015)

Regarding the dairy product at the factory's processing gate, the functional unit depends on the analysis conducted (for example, one kilogram of cheese with x% fat and y% protein, packaged at the factory gate, ready for distribution).

LCM System Boundaries

Production of Raw Milk

The system boundaries for the production of raw milk start from the inputs to the dairy farm and include: feed inputs (grass, fodder, concentrates etc.), forage crop inputs (mineral fertilizers and pesticides for feed production, manure), livestock inputs (animals for dairy production) and energy inputs (fuel for machinery, electricity used at the farm etc.) and refrigerants (IDF, 2015; EDA, 2018).

The outputs from the dairy farm include: raw milk, meat as a co-product, manure, feed, renewable energy (e.g. biofuel), and emissions from: the combustion of fuels, enteric fermentation, manure storage and application, mineral fertilizers and pesticides application, mineral and organic soils (IDF, 2015; EDA, 2018).

Production of Dairy Products

The system boundaries for the production of dairy products start from the inputs to the dairy processing factory, which are: raw milk, dairy ingredients (intermediate dairy products), non-dairy ingredients (salt, sugar, fruit, herbs etc.), packaging and energy inputs (fuel for machinery, electricity etc.) and refrigerants (IDF, 2015; EDA, 2018).

The outputs from the dairy processing factory include: final dairy product, wastewater, waste materials, emissions to air and water (IDF, 2015; EDA, 2018).

Scopes and Sources of Data

Our methodology is based on the operational boundary approach as described by the GHG Protocol. Operational boundaries are defined by "scopes", which categorize emissions into direct (produced at company level) and indirect (not produced at company level, but are the results of the company's operations and activities). The most common sources of emissions in dairy processing, according to the IDF (2015) and ICUSD (2019) are:

Scope 1: Dairy processing direct emissions, that occur from stationary or mobile combustion and fugitive emissions from refrigeration and air conditioning. Stationary fuel combustion emissions sources are usually machines or equipment that use fuel for producing electricity, steam or heat such as boiler, combustion turbines, process heater and incinerators. Mobile combustion emissions are released by on-road vehicles (owned by the company), such as company vehicles, combination trucks and fluid milk trucks and non-road vehicles (mobile machinery) such as forklifts, any non-road and construction

equipment. Fugitive emissions are released from refrigerated transport, industrial process refrigeration, cold storage and mobile air conditions.

Scope 2: Dairy processing indirect emissions from the generation of purchased energy. These are indirect emissions because they are a consequence of the company's activities, but they occur at sources not controlled by the company. Purchased energy in dairy processing is mainly used for process cooling, freezing and cold storage, while electricity is also used for process motors, fans, pumps, compressed air systems etc.

Scope 3: Dairy processing indirect emissions related to feed and raw milk production (unless the farm is owned by the company, in which case the emissions fall under the scope 1 category), upstream and downstream transportation (mobile combustion emissions) of raw milk to the dairy processing factory and distribution of dairy products to the sale point, respectively (if the vehicles are owned by the company these emissions fall under the scope 1 category) and packaging.

The most common sources in milk production, according to the IDF (2015) are:

Scope 1: Direct on-farm emissions from enteric fermentation, manure management and feed production (land use changes). Mobile combustion emissions are released by on-road vehicles (owned by the farm) and non-road vehicles and machinery used in agriculture such as tractors, harvesters etc. (EEA, 2019). Fugitive emissions are released from cold storage and other sources used for cooling.

Scope 2: Indirect emissions on-farm result from energy needed for milking, heating and cooling.

Scope 3: Indirect emissions related to upstream and downstream transportation (mobile combustion emissions) of feed, forage crop and livestock inputs to the farm (if the vehicles are owned by the company these emissions fall under the scope 1 category).

MAPPING DATA COLLECTION

This section lists the data needed to compile a GHG inventory for the processes described above. The data needed are organized according to their respective processes: Raw materials (Table 1), Milk Production (Table 2) and Milk Processing (Table 3). Table 4 records the data needed to calculate emissions related to stationary and mobile combustion and purchased energy.

Milk Processing Data	
Raw milk	
Total milk allocated to the dairy processing factory	kg/year
Transportation of raw milk to dairy processing factory	Based on the EEA 2019 Guidelines
Energy	
Electrical Energy	Based on the IPPC 2006 Guidelines
Energy from stationary combustion sources	Based on the IPPC 2006 Guidelines
Final product	
Quantity of product produced at the manufacturing plant	kg/year
Co-Products	
Type of co-product	cream, whey, downgraded cheese etc.
Quantity of co-product	kg/year

Table 1. List of data required to calculate emissions related to milk production. Adapted from IDF (2015)

Raw Materials Data	
Feed Inputs	
Type of feed input	grass, concentrates, etc.
Quantity of each type of input	kg/year
Transportation of feed inputs to farm	Based on the EEA 2019 Guidelines
Forage Crop Inputs	
Type of forage crop input	Fertiliser, pesticides etc.
Quantity of each type of input	kg/year
Transportation of forage crop inputs to farm	Based on the EEA 2019 Guidelines
Livestock Inputs	
Type of animals	dairy cows etc.
Number of animals transported to the farm	No. of animals
Transportation of animals to farm	Based on the EEA 2019 Guidelines
Ingredients	
Type of ingredient (dairy and non-dairy ingredients)	cream, buttermilk, lactose, fruit, herbs, etc.
Quantity of ingredient	kg/year
Transportation of ingredients to the dairy factory	Based on the EEA 2019 Guidelines
Packaging	
Type of packaging	bottle, plastic foil, box etc.
Packaging material composition	paper, cardboard, plastic, glass etc.
Quantity of each type of packaging	kg/year
Transportation of packaging to the dairy factory	Based on the EEA 2019 Guidelines

Table 2. List of data required to calculate emissions related to raw materials. Adapted from IDF (2015)

Stationary Combustion			
Stationary Combustion Description	Source	boillers, combustion turbines, process heater etc.	
Fuel type			
Consumption			
Quantity of fuel			
Mobile Combustion			
Road - Vehicles			
Mobile Combusion Source Description			
Road Vehicle Category			
Euro Standard			

Fuel type	Petrol, Diesel, etc.
Quantity of fuel	total fuel/source/year
Distance Travelled	km
Non-Road Vehicles	
Mobile Combustion Source Description	Forklifts, construction and agriculture machines, etc.
Fuel type	Petrol, Diesel, etc.
Quantity of fuel	total fuel/source/year
Consumption	fuel/hour
Non-Road Technology Stage	Stage I, II, III, etc.
Purchased Energy	
Purchased Energy Source Description	any milk processing of milk production equipment
Energy consumption of source	kw/h
Type of energy purchased	market-based or location-based

Table 3. List of data required to calculate emissions related to stationary combustion, mobile combustion and purchased energy Adapted from IPCC (2006) and EEA (2019)

Milk Production Data	
Feed Production Data	
Land used for feed	acres
Dry matter yield per acre	kg/acres
Percentage of the total crop yield used for feed (excluding crop residuals & wastes)	%
Energy use by machinery	Based on the EEA 2019 Guidelines
Transport of feed to animal production site	Based on the EEA 2019 Guidelines
Processing of feedstuffs in the feed mill	Based on the IPCC 2006 Guidelines
Raw Milk Production Data	
Farm products	
Total quantity of milk produced	kg/year
Average annual milk production of dairy cow	kg/dairy cow/year
Fat content of milk	grams/litre
Protein content of milk	grams/litre
Total meat produced	kg/year
Livestock Population	
Number of Animals	No. of animals
Number of animals that are replaced annually by new animals	No. of animals
Animals above replacement	No. of animals
Average weight (age at which the female animal gives birth for the first time)	kg
Mature weight (age at which the animal has the optimal weight for slaughter)	kg
Average weight gain per day	kg/day
Feeding situation	(stall/pasture/large grazing areas)
Mean winter temperature	oC
Percent of females that give birth in a year	%
Number of off spring produced per year	No. of animals
Feed digestibility (digestible energy expressed as a percentage of gross energy)	%
Manure Management	
Type and time of manure storage	Based on the IPCC 2006

	Guidelines
Type of manure application	Based on the IPPC 2006 Guidelines
Energy Inputs	
Energy needed for milking, heating, cooling etc.	Based on the IPPC 2006 Guidelines

Table 4. Table 3. List of data required to calculate emissions related to milk processing Adapted from IDF (2015)

Designing the Tool

The aim of this paper is to provide the basic design for a tool that will be used for the calculation of the carbon footprint of dairy products. The tool provides options to create the representative product for which the carbon footprint will be calculated, define the functional unit and design the process map of the life cycle of the product. Additionally, it allows the user to record the raw material inputs and the emissions resulting from their transportation to the dairy farm or the dairy processing factory, as well as, the emissions resulting from combustion of fuel in stationary and mobile sources and the consumption of purchased energy. Finally, it maps down the process of milk production, which is the largest source of GHGs in the dairy sector. The GHGs that are included in the calculation of the carbon footprint are: carbon dioxide, methane and nitrous oxide.

The rest of this section is organized in process flows that show how the user will interact with the tool. The completion of the data in this tool is divided into the following steps:

Step 1: General data such as the company's name, the country and the product for which the carbon footprint will be calculated.

Step 2: If the final product is a dairy product, the user will be asked to define the functional unit and whether data on milk production are available. If there are, the respective data sections will be available at a later stage. If no data regarding raw milk production are available, the user will be asked to provide data regarding the country of origin of the raw milk supply, and an average carbon footprint of raw milk production will be used based on international research regarding the specific country of origin. If the final product is the production of raw milk (in the case of a dairy farm), then the process map will be limited up to the milk production stage. A general decision tree for the above steps is presented in Figure 3.

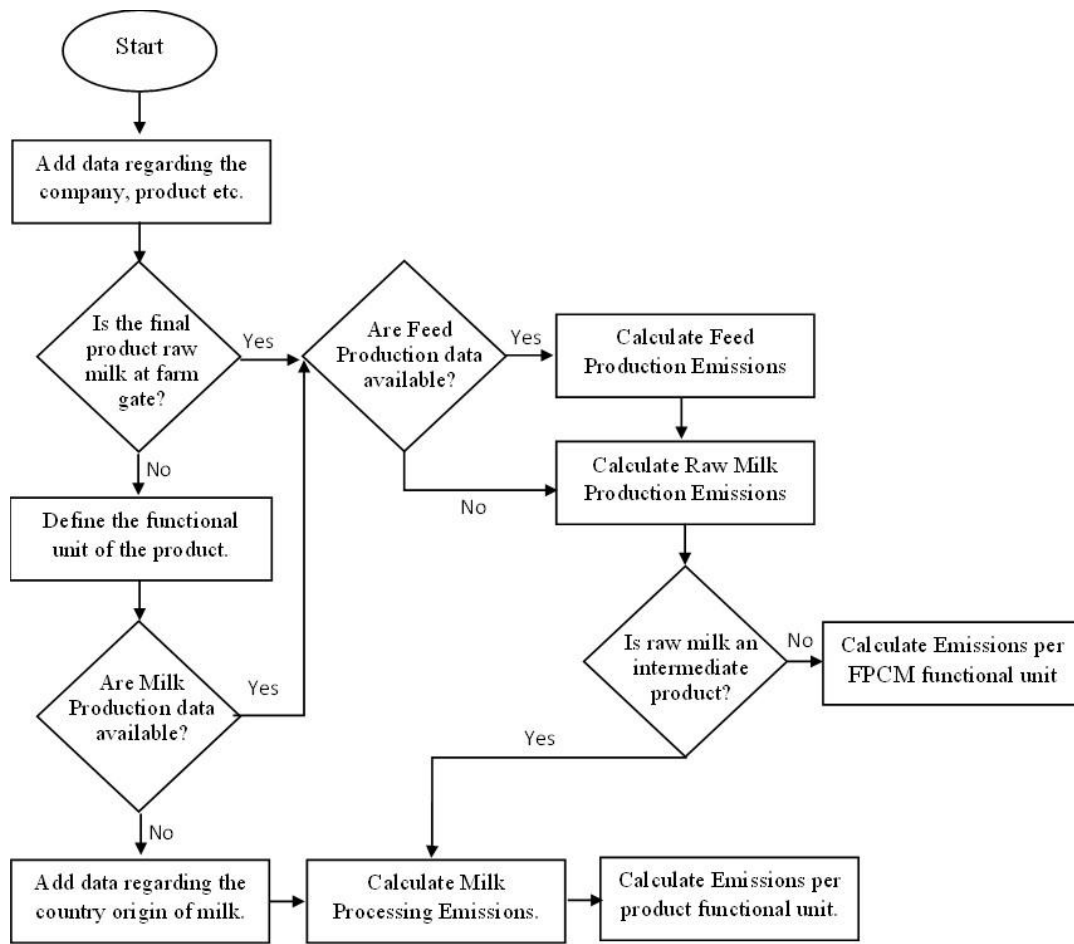


Figure 3. Generalized decision tree for estimating emissions in dairy products

Step 3: Mapping the processes. The user will be able to add those processes for which available data exist. For example, if no data exist for the process of feed production, the user can choose not to calculate emissions related to this process or he can choose which raw materials to add (Figure 7). Figure 4 shows the steps for calculating feed production emissions. Figures 5 and 6 show the steps for estimating milk processing and milk production emissions respectively.

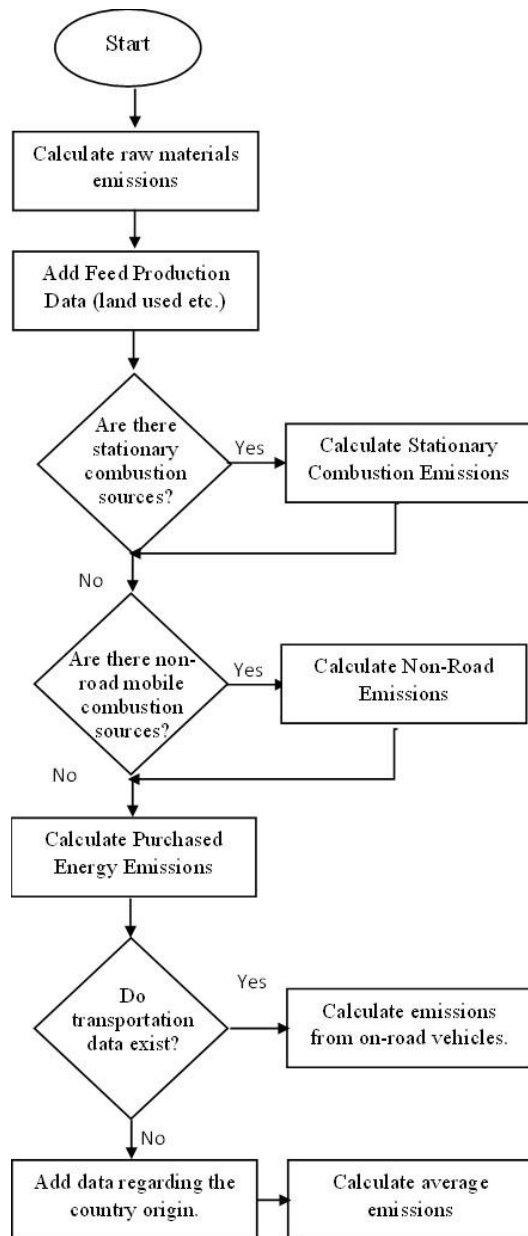


Figure 4: Generalized decision tree for estimating feed production emissions

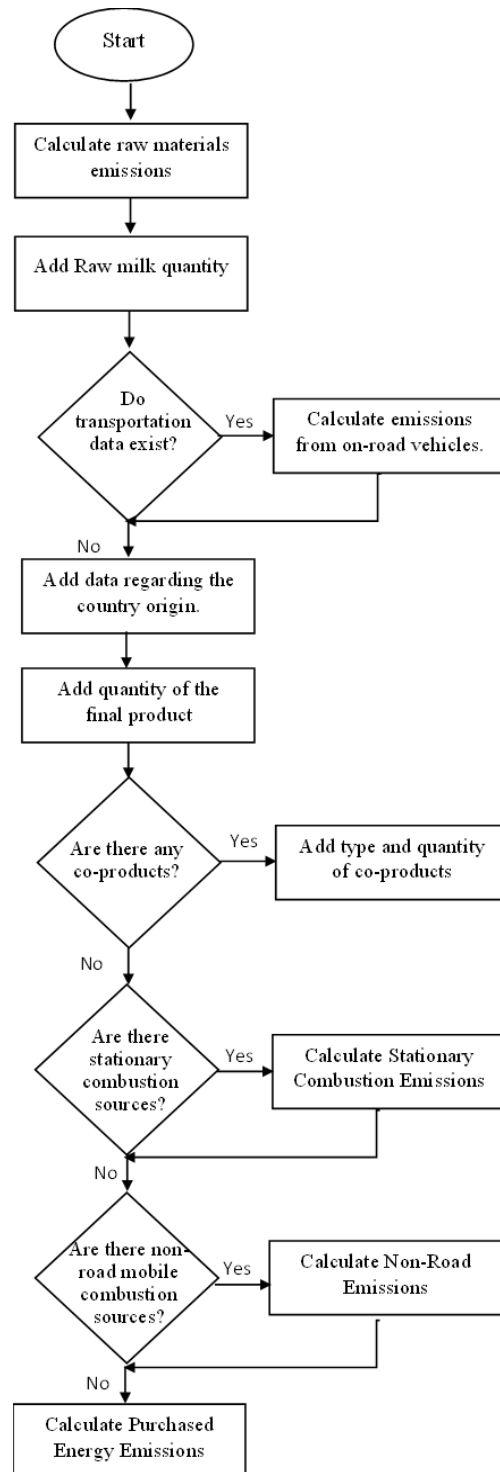


Figure 5: Generalized decision tree for estimating milk processing emissions

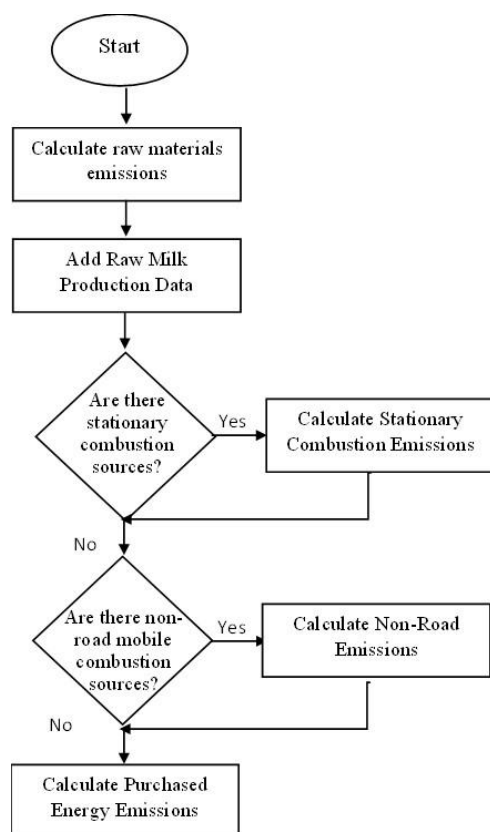


Figure 6. Generalized decision tree for estimating milk production emissions

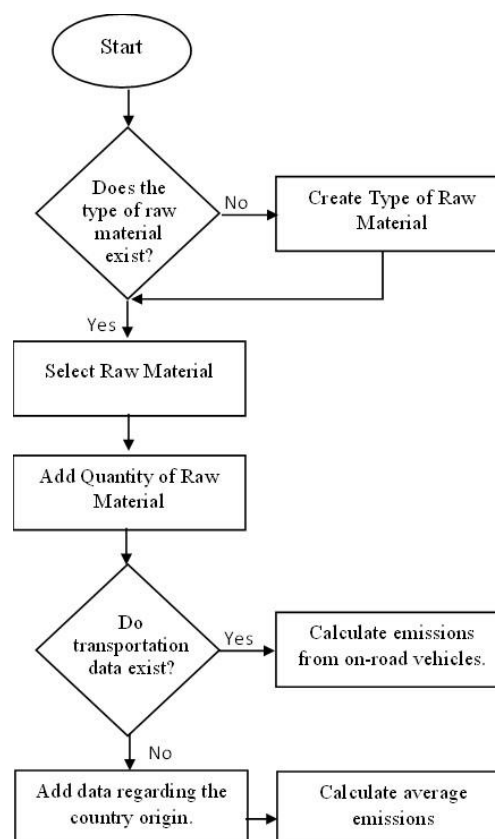


Figure 7. Generalized decision tree for estimating raw material emissions

CONCLUDING REMARKS

The aim of this paper is to present the design of a tool that will be used to calculate the carbon footprint of dairy products and milk production. Additionally, we have mapped the data necessary for calculating the emissions related to the carbon footprint of dairy products. The implementation of this tool is part of a project funded by the Hellenic Ministry of Development and Investments and the European structural and investment funds. The design presented in this paper has a number of limitations that are to be addressed at a later stage of the project. First, we do not take into account the fugitive emissions (related to the use of refrigerants), which are to be added at a second phase of the project, and the emissions related to land use change, because their calculation is difficult to be designed at this stage. Second, regarding the milk processing stage, we do not take into account chemicals and cleaning agents used at the production facilities, which will also be added at a second stage. Finally, we do not examine the allocation of emissions between the representative product and the possible co-products of a production process. This is to avoid complicating the analysis provided in this paper. The tool that will be developed will allocate emissions between the final product and the co-products, according to the allocation methodologies provided by the IDF and GHG Protocol.

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WE ARE ALL ENTREPRENEURS NOW: SALESPERSON EFFECTUATION IN RESPONSE TO COVID-19 DISRUPTION

Epler, Rhett¹; Fox, Matthew²; Leach, Mark²; Oneto, Stephanie²

¹Strome College of Business, Old Dominion University

²College of Business, University of Wyoming

ABSTRACT

Effectuation has been proposed to be a response to the uncertainty faced by entrepreneurs. COVID-19 created massive disruption for many people who previously would not have considered themselves to be entrepreneurs, but who nonetheless suddenly face great uncertainty. Study 1 shows salespeople who were disrupted greatly by COVID-19 can become more effectual, and the greatest gains come among less creative salespeople in the oldest firms – for whom effectuation was not necessary in the absence of COVID-19 disruption. Study 2 finds creative salespeople are effectual regardless of the reward system, while less creative salespeople benefit from outcome-based rather than activity goals.

1. INTRODUCTION

In a time like this, everyone has to be an entrepreneur.

-Saras Sarasvathy (2020)

Entrepreneurs have been managing uncertainty since before Cantillon (1734) first applied the term to those who undertake the creation of new businesses and products without advance knowledge of the outcome of their efforts. The inherent uncertainty around creating anything new forces entrepreneurs to develop a set of tools to make decisions (Sarasvathy, 2001). When faced with a much more comprehensive uncertainty, decision makers in a broader range of contexts can adopt those same tools to succeed in the new reality.

COVID-19 has extended the uncertainty typical of new businesses to a much wider range of organizations, regardless of size or age. Customer demands, legal requirements, and labor markets are all subject to major shifts, seemingly without warning, and firms are left to adapt to environments they could not possibly have predicted. Established organizations create structures, strategies, and processes, including metrics like key performance indicators and sales goals to enable execution in known environments, but “none of these things really work when the things you think you know are changing rapidly beneath your feet” (Euchner & Blank, 2021: 12). As the highly refined and effective tools of established organizations begin to fail in the face of the unpredictable shifts due to the pandemic, the tools of entrepreneurs offer an alternative to weather the storm.

Sarasvathy (2001) offers effectuation as an alternative decision making framework to cope with the highly uncertain environments faced by firm founders, and increasingly, everyone else. When the future is predictable, decision makers can use a causal model, determining a desirable end state, and examining a range of available means to create that effect, but when the future is unpredictable, decision makers must begin with the available means, and find ways to select among the various outcomes that can be created with those means (Sarasvathy, 2001). By minimizing predictive rationality in favor of experimenting and moving quickly, firms keep their options open and learn as they go (Wiltbank, Dew, Read, & Sarasvathy, 2006). Specifically, effectual decision making differs from causal decision making in 4 key ways: 1) An emphasis on affordable loss, rather than expected returns. 2) Strategic alliances rather than competitive analyses. 3) Exploitation of contingencies, rather than exploitation of preexisting knowledge. 4) Controlling an unpredictable future, rather than predicting an uncertain one (Sarasvathy, 2001: 245). The truth of Sarasvathy's (2020) claim that we all need to be entrepreneurs in times like these rests on the answer to an important research question: *Can anyone adopt effectual decision making to effectively respond to highly uncertain environments?*

The sudden shock of COVID-19 provides a unique opportunity to answer this question. Research showing that effectual decision making is more common among entrepreneurs often suggests that effectuation is not a character trait, but a learned response to uncertainty (Sarasvathy, Simon & Lave, 1998; Dew, Read, Sarasvathy, & Wiltbank, 2009). When existing firms' processes rooted in knowledge of the future fail in uncertain environments, they can follow the lead of entrepreneurs. Their leaders can create experiments where the right course of action can be learned when it is not known. Their employees can preserve their flexibility to proactively read the situation and react, as long as the cost of being wrong is affordable. They can also build relationship networks in a manner that helps them to better manage the environment.

We seek to apply the lessons of entrepreneurship to salespeople faced with the uncertainty of COVID-19. The sales process is often highly prescribed, with ambitious goals for behaviors known to work (Anderson & Oliver, 1987). COVID-19 has disrupted this regimented sales process, making many common sales behaviors useless at best, and unsafe or illegal at worst (Chaker, Nowlin, Walker & Anaza, 2021). In two studies, with business-to-business (B2B) salespeople, we show that less creative salespeople in older firms can become more effectual when uncertain environments demand it. In study one, we surveyed B2B salespeople in April and May of 2020, and found that for those most disrupted by COVID-19, higher levels of effectuation mitigated the damage to salesperson performance. Less creative salespeople in older firms, who tended to have low levels of effectuation when COVID-19 disruption was low, were able to close the gap and display higher levels of effectuation when disruption was high. In study two, we experimentally examined a single policy

change that established firms could undertake: the nature of the goals they set for employees. This experimental study showed that when faced with COVID-19 based disruption, creative salespeople had persistently higher levels of effectuation than less creative people, but less creative salespeople with highly prescriptive activity goals lagged their creative counterparts more than those who had more open-ended outcome-based goals. Across these studies, we show that it is both possible and desirable to promote effectuation among non-founders in highly uncertain environments.

2. THEORY DEVELOPMENT

For over two decades, Sarasvathy and her colleagues have argued that effectuation allows entrepreneurs to make better decisions in highly uncertain environments. (Sarasvathy, Simon, & Lave, 1998; Sarasvathy, 2001; Dew, Reed, Sarasvathy, & Wiltbank, 2009; Sarasvathy, Kumar, York, & Bhagavatula, 2014; Sarasvathy & Ramesh, 2019). Sarasvathy (2001: 245) distinguishes between traditional, causation-based decision making and entrepreneurial, effectuation-based decision making by arguing that “causation processes take a particular effect as given, and focus on selecting between means to create that effect. Effectuation processes take a set of means as given and focus on selecting between possible effects that can be created with that set of means.” In weighing the options available in highly uncertain environments, effectual decision making prioritizes experimentation over prediction, ensuring affordable losses vs. achieving maximum gains, strategic alliances vs. competitive analyses, and preserving flexibility to exploit environmental contingencies vs. maximizing the efficiency of existing resources (Sarasvathy, 2001; Chandler, DeTienne, McKelvie, & Mumford, 2011). In a world that has become radically less predictable, these effectual decision making processes hold promise to improve performance for a much wider variety of decision makers than the firm founders that past research has shown embrace them. While past research has focused on how entrepreneurs use effectuation to successfully navigate the uncertainty of creating new products, markets, and companies, our focus is on whether other people can successfully adopt those same tools to respond to the uncertainty of COVID-19.

One group of decision makers whose world is suddenly less certain are salespeople. Salespeople are often paid variable compensation, exposing them to greater uncertainty in the best of times (Habel, Alavi & Linsenmayer, 2021). Economic dislocation due to COVID-19, changes in norms surrounding customer interactions, the risk of temporary/permanent layoff, performance metrics rendered irrelevant, and many other factors have introduced various uncertainties into the B2B sales realm (Hartmann & Lussier 2020). Pedersen, Ritter, and Di Benedetto (2020) note that in practice, COVID-19 is a series of interrelated sub-crises, and for B2B salespeople, structural uncertainty exists in the forms of recession, demand disruption, and industry closure. Cankurtaran and Beverland (2020)

acknowledge that no real timeline or path to normalcy exists, and volatile governmental rule changes have proven difficult for B2B participants. Taken together, the impact of COVID-19 related uncertainty is heightened because of the unpredictable interactions of the crisis elements (Oehman et al., 2020). Effectuation theory suggests that the same techniques entrepreneurs use to manage uncertainty could be applied by others to mitigate the damage of COVID-19 to their livelihoods, though the known negative effects, separate from uncertainty would remain.

Effectual decision making can help salespeople reduce the negative impact of COVID-19 disruption by helping them to manage uncertainty. For example, Read and his colleagues (2009) found that expert entrepreneurs (who had founded companies) evaluating an uncertain marketing environment were more likely than expert managers to question market research, which they saw as less definitive. The experienced founders relied more on partnerships in their distribution channels, worried more about the losses they can afford, and were more flexible in the characteristics of the product and the markets they tailored it to (expert managers generally took the product and market as given). Read and his colleagues (2009) showed that serial founders perceived this hypothetical marketing situation as more uncertain and made decisions to protect against uncertainty that experienced managers did not. We anticipate that this distinction would similarly apply to salespeople experiencing highly differing levels of uncertainty.

3. HYPOTHESES

3.1 COVID-19 and salesperson performance

The uncertainty surrounding COVID-19 compounds the reality that the job of B2B sales has certainly become more difficult. Business bankruptcies through the first 8 months of 2020 hit a ten-year high in the United States, despite three of those months being relatively unaffected (Irum & Hudgins, 2020), meaning many deals went unpaid and leaving fewer customers to sell to. Business investment on equipment fell by a 37.7% annualized rate in the second quarter of 2020, the largest drop ever recorded, though the pain has not been equally distributed, with sales of computers and communications equipment surging while sales of machinery and metals remain moribund (Mutikani, 2020). Other salespeople may have had nothing to sell, with COVID-19 disrupting supply chains and labor markets (Karan & Asgari, 2021). While uncertainty is not associated with negative outcomes in every case, the uncertainty of COVID-19, particularly at the beginning of the pandemic, was bad for most of the salespeople who encountered it.

Hypothesis 1. *Salespeople reporting higher levels of COVID-19 related disruption to their business will report worse performance.*

3.2 Effectuation mitigates the damage of COVID-19 disruption

While individual and organizational antecedents are important to our understanding of effectuation, our primary interest is in the contextual effect of COVID-19 on effectuation. Effectual decision making processes can help salespeople reduce the negative impact of COVID-19 disruption by helping them to manage uncertainty. In highly uncertain situations, prediction becomes largely useless, and the individual will seek to control what they can through effectual decision making (Sarasvathy & Dew 2005; Jiang & Ruling, 2019), and manage unpredictability and conditions of information deficit (Chetty et al., 2015). Wang, Shrock, Kumar & Hughes (2020) argue that effectual decision making is something that salespeople will utilize in the face of difficulty and uncertainty. For example, as one salesperson described his decision making to Hochstein, Bonney and Clark (2015: 311) “I knew I was never going to make quota off of this client selling them the same old stuff... What else can we sell to [company name]? We were the lead dog with a lot of cool resources, so we could dictate what wanted to sell to the customer, so I challenged them to let us sell them some things we had never done before. This took some work.” Hochstein and his colleagues (2015) note both the potential importance of the cognitive processes of effectuation and causation in determining how salespeople go about their work and the lack of research examining how such processes might be apparent in their actions. Based on what effectuation researchers have observed in entrepreneurs (Wiltbank et al., 2006; Chandler et al., 2011), we expect salespeople facing greater COVID-19 disruption to respond to this uncertainty with higher levels of experimentation, a focus on acceptable losses, an emphasis on preserving flexibility, and the cocreation of value with customers using activities such as precommitments.

Hypothesis 2. *Salespeople reporting higher levels of COVID-19 related disruption to their business will report higher levels of effectuation.*

Effectuation may not change the most negative aspects of B2B sales, but it can help to manage the uncertainty. Implied in Read and his colleagues (2009) work is that serial founders utilize effectual decision making in response to perceived uncertainty, because they believe it will improve performance. Effectuation scholars make the point that experimentation, affordable loss, strategic partnerships, and flexibility allow entrepreneurs to exploit environmental contingencies and choose the most desirable outcome available, given their available set of means (Sarasvathy, 2001). While the idea that effectuation-based decision making will lead to better performance under conditions of uncertainty is widely accepted as the mechanism underlying its use by entrepreneurs, measures of performance are rare in effectuation research, and the link has not been definitively shown in the literature (McKelvie et al., 2020; Gregoire & Cherchem, 2020). We expect that the salespeople who enact effectuation-based decision making will be rewarded with improved performance, relative to salespeople reporting lower levels of effectuation.

Hypothesis 3. *Salespeople reporting higher levels of effectuation will report better performance.*

Research on effectuation has shown that entrepreneurs think differently than non-entrepreneurs (Sarasathy et al., 1998; Read et al., 2009), but the actual origins of those differences remain underexplored (Grégoire & Cherchem, 2020; McKelvie et al., 2020). Similarly, the effects of effectuation on salesperson performance are also largely unknown. Coviello and Joseph (2012) find that effectuation leads to improved performance of startups pursuing major innovations. Hochstein and his colleagues (2015) find that salespeople using effectuation to make their goals while avoiding harsh judgment for violating rules. In both of these qualitative studies (Coviello & Joseph, 2012; Hochstein et al., 2015), effectuation does seem associated with improved salesperson performance under conditions of uncertainty, but neither study focused primarily or delved deeply into if and when effectuation improves sales performance. Effectuation theory emphasizes the uncertainty of entrepreneurial contexts (Sarasvathy, 2001; 2015), but entrepreneurial decision making could just as easily be a function of the attributes of individual entrepreneurs, or the structure of entrepreneurial organizations. We propose that all of these factors are at play, but consistent with effectuation theory, the strongest factor is the uncertain environment.

Managing uncertainty well does not change the fact that the B2B sales environment has gotten worse, in addition to becoming less predictable (Bond III et al., 2021). Nor does it change the reality that COVID-19 has made things worse for some salespeople than others. Salespeople typically have their own clients and territories. Salespeople whose key client has gone bankrupt, or is having supply chain disruptions, or whose territory is subject to more legal restrictions on economic activity, are likely to underperform their peers to a greater degree. While effectual processes can help to reduce the damage to that person's sales due to uncertainty, they are unlikely to bring back the client or remove the legal restrictions. As such, we expect the positive partial mediation effect of effectuation on the negative relationship between COVID-19 disruption on sales to explain why sales performance is not worse, rather than explaining why sales performance is good or why it is bad.

Hypothesis 4. *Effectuation partially mediates the relationship between perceived COVID-19 disruption and COVID-19 sales performance such that greater perceived disruption leads to greater effectuation which positively impacts sales performance, even as it remains worse than peers who were less disrupted.*

3.3 Large scale disruption drives effectuation among the least effectual

Effectuation research has shown that people with a history of founding firms make different decisions than non-entrepreneurs in the same decision making context (Sarasvathy et al., 1998; Dew et al., 2009; Read et al., 2009). Yet, effectuation researchers have rarely examined the possibility of individual differences in personality, talent, or motivation accounting for individual differences in effectuation. Some of this may relate to a body of research on the attributes of individual entrepreneurs that has

produced confusing or conflicting, or disappointing results over the years (Gartner, 1988; Aldrich, 1999; Ramoglou, Gartner, & Tsang, 2020). Barring several notable exceptions (e.g. Michaelis, Carr, Scheaf & Pollack, 2020; Stroe, Parida & Wincent, 2018); past research is sparse and disparate in terms of understanding individual level antecedents. However, the nature of effectuation suggests that creative individuals may be predisposed to think effectually. By definition, effectuation entails examining the available resources and considering the various ways they could be reassembled to form new products, markets, and companies. Past research has emphasized the creative elements of effectuation, such as problem solving, even if empirical work has not examined whether such a link exists (Reuber, Fischer & Coviello, 2016). Effectuation also implies a tolerance for ambiguity (Sarasvathy, 2001); which is a key antecedent of creativity (Amabile, 1996). Welter, Mauer, and Wuebker (2016: 7) explain that effectuation theory takes the view that opportunities are created, rather than found, and focuses on decisions “that permit future actions, and ideally, expand the actor’s ability to create (or cocreate) one of many possible futures.” Finally, because of the difficulties of COVID-19, customer needs have been elevated and customer demands drive creativity (Wang and Netemeyer 2002). As such, we expect a positive main effect of creativity on effectuation.

Hypothesis 5. *More creative salespeople will report higher levels of effectuation.*

Effectuation theorists (Sarasvathy et al., 1998; Read et al., 2009; Dew et al., 2009) generally explain differences in effectuation between firm founders and other experts as a function of the uncertainty inherent in creating new businesses, products, and markets. This uncertain context is not limited to the founder of a new firm. Grégoire and Cherchem (2020) note a number of studies have found that a variety of employees become less effectual as firms age. For example, Nummela, Saarenketo, Jokela and Loane (2014) show that different personnel adopt effectual or causal decision making frameworks, and changes in personnel over time tend to shift firms from effectual towards causal modes of action (see also Ciszewska-Mlinaric, Obloj & Wasowska 2016). Similarly, Maine et al. (2015) find that regulations and investors push previously effectual executives towards more causal decision making. Such studies are consistent with previous work showing that startups increasingly rely on formal control mechanisms over time (Cardinal, Sitkin, & Long, 2004). Cumulatively, this work suggests that salespeople in younger firms will be more effectual.

Hypothesis 6. *Salespeople in younger firms will report higher levels of effectuation.*

The suggestion that we all need to be entrepreneurs now suggests that the people who were previously not entrepreneurial are the ones who need to change the most. Thus, while less creative salespeople in older firms may not be effectual in predictable environments, they have the most to gain from adopting effectuation in disrupted environments. Sarasvathy and her colleagues showed that firm founders are more likely to use effectual decision making processes than bankers

(Sarasvathy et al., 1998), or MBA students (Read et al., 2009; Dew et al., 2009; 2011), but little is known about why these differences exist. Effectuation theorists emphasize the uncertain nature of the entrepreneurial context (Baron 2009; Read et al., 2009; Dew et al., 2009), but the comingling of entrepreneurial individuals and organizations that survive in uncertain contexts leaves open the question of whether it is possible for any individual or firm to respond to a sudden sharp increase in uncertainty by becoming more effectual, or whether selection and survivorship bias simply remove inherently less entrepreneurial people and firms from the pool. The implication of effectuation theory is that anyone can respond to uncertainty with effectuation, but past research has not addressed the question directly.

The uncertainty associated with COVID-19 gives us the opportunity to disentangle the individual, organizational, and contextual predictors of effectuation. Creativity is often studied as an individual difference, meaning that people can be more or less creative, but creativity is also a function of the work environment, meaning that organizations can make choices to encourage more creativity among any of their employees (Amabile & Pratt, 2016). Similarly, while firms cannot change their age, the effect of firm age on effectuation relates more to the policies adapted to the firm's understanding of its place in the market environment, though the existence of this link and the related mechanisms remains underexplored (Arend, Sarooghi, & Burkemper, 2015). As noted above, past theory on effectuation suggests that effectuation will be higher among more creative salespeople and those working in younger firms, but effectuation is now considered a decision making process that can be adopted by anyone, in any organization, when faced with high levels of uncertainty (Reuber, Fischer & Coviello, 2016). This means that the largest increases in effectuation due to the contextual uncertainty of COVID-19 should be among salespeople who were previously least effectual. If less creative salespeople working in established firms are able to adopt effectual decision making processes, we will have confirmation that the individual and organizational antecedents are not prerequisites for effectuation.

Hypothesis 7. *Salesperson creativity, firm age, and COVID-19 disruption will interact, such that the positive effect of COVID-19 disruption will be greatest for the least creative salespeople in the oldest firms.*

3.4 Managerial implementation of effectuation

Having suggested that it is possible and desirable to promote effectuation in response to a sudden shock of uncertainty, the question arises of how to do it. Older firms cannot change their age to promote more effectuation in their less creative employees, but they can change their policies. In the sales context specifically, one policy change that could facilitate a shift to greater

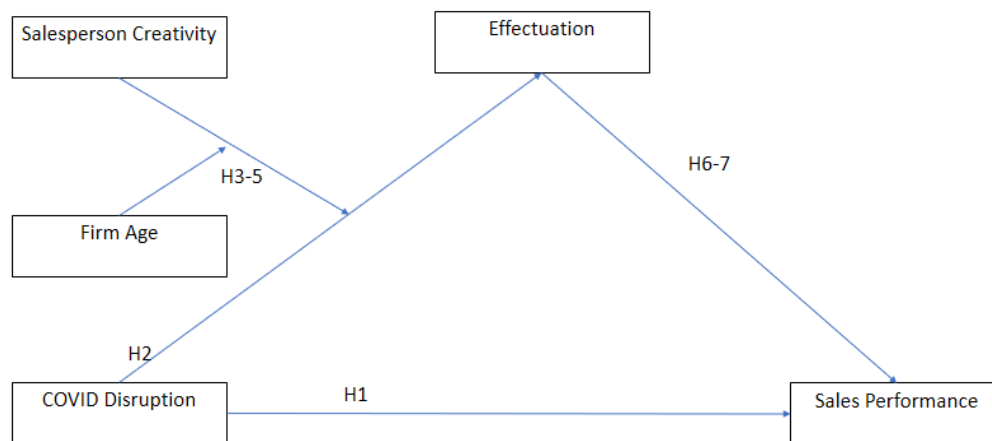


Figure 1: Model of how COVID-19 based disruption affects salesperson performance

effectuation revolves around the control system by which salespeople are monitored and rewarded. In his seminal paper on misaligned rewards systems, Kerr (1975) notes that individuals and organizations often set themselves of for failure by rewarding for A while hoping for B. His survey of employees of a manufacturing firm whose managers complained of a dysfunctional culture of risk avoidance and conformity, found that “the same behaviors which managers in each division thought were dysfunctional were those which lower-level employees claimed were rewarded” (Kerr, 1975: 778). Consistent with Kerr’s findings on risk avoidance conformity, more recent research shows that the entrepreneurial goal of creativity is often vocally valued by organizations, even as their reward systems punish it (Mueller, Melwani, & Goncalo, 2011). If established firms are hoping for effectuation, they cannot continue rewarding for causation. Firms that have designed sales control systems for executing in known environments cannot expect those behaviors to succeed, if they no longer understand what to expect in the rapidly changing environment driven by COVID-19.

While the nature of effectuation among salespeople is not well understood, a relevant body of research has emerged around the role of different types of reward systems salespeople operate under (Hochstein et al., 2015). Salespeople can be rewarded for the process by which sales are achieved – e.g. activity-based goals – or for the sales resulting from that process – e.g. outcome goals (Challagalla & Shervani, 1996). A sudden shock of uncertainty undermines the assumption that firms actually know which behaviors would lead to sales. While creative salespeople may find ways to be effectual regardless of their firm’s variable compensation system, less creative salespeople are likely to have a harder time identifying ways to experiment or collaborate in new ways while continuing to perform the prescribed behaviors designed for a more certain time. Both outcome and activity-based control systems can increase performance under the right circumstances (Oliver & Anderson, 1994; Stathakopoulous, 1996).

Under conditions of uncertainty, the prescriptive activities of activity-based control systems are likely to limit less creative salespeople’s ability to respond with increased effectuation, while more creative

salespeople may find ways to be effectual regardless of control systems. Activity-based control systems involve close monitoring of salespeople with regard an array of prescribed activities known to result in increased sales (e.g. site visits, phone calls, relationship building) (Anderson & Oliver, 1987). Activity-based controls are characterized by bureaucratic forms of managerial control and a distinct focus on the sales process e.g required daily calls per day, required site visits per week and deliver scripted presentations (Ramaswami, 1996). Activity controls were initially argued to be the purview of certain and nurturant environments (Oliver & Anderson, 1994). In addition, activity-based controls can hinder challenge seeking behaviors (Miao, Evans & Shaoming, 2007), and can also be limiting for more senior salespeople (Inyang & Jaramillo, 2020). Creative salespeople may be able to work within these constraints, finding novel, useful ways to meet their activity goals, keeping losses affordable as they experiment with off script sales techniques and collaborating with customers to reduce uncertainty. Less creative salespeople, on the other hand are less likely to pursue novelty in their prescribed behaviors. Their lack of creativity will instead lead them to keep doing what has worked in the past, even if a shock of uncertainty invalidates the causal logic underlying the goals. Altering the nature of control systems can allow for less creative salespeople to close the gap. Outcome-based control systems provide a simple performance metric (e.g. sales volume), while providing salespeople high levels of freedom and autonomy in how goals are achieved. The lack of prescribed behaviors may have relatively little impact on the effectuation of creative salespeople. Their ability to identify novel ways of meeting activity goals means that they are always likely to find ways to respond to uncertainty with effectuation. Less creative salespeople, on the other hand, are likely to benefit from outcome rather than activity-based goals in uncertain environments. Outcome controls also allow for salespeople to behave in a highly entrepreneurial manner (Anderson & Oliver, 1987). Without prescribed behaviors, outcome goals allow salespeople to experiment. Outcome controls transfer the responsibility for managing risk and uncertainty to salespeople (Krafft, 1999; LaPierre & Skelling, 2005), which ultimately affords the salesperson the agency (to be effectual) and avoid punishment (Robertson & Anderson, 1993). While less creative salespeople may find it hard to take advantage of this freedom to be as effectual as their more creative counterparts, the combination of increased freedom and responsibility of outcome-based controls will lead them to be more effectual than they would be under activity-based controls.

Hypothesis 8. *Salesforce control systems will moderate the relationship between creativity and effectuation such that outcome-based controls will increase the effectuation of less creative salespeople, but not more creative salespeople.*

4. STUDY 1

The sample for the current study was acquired from Qualtrics panel services and utilizes B2B outside salespeople. The sample itself consists of three hundred and nineteen (319) American professionals from different companies and geographic regions, as well as across various industries. All sampled data contains salespeople with more than three years of experience who are exclusively involved in B2B sales (see Appendix, Table 1). We closely collaborated with Qualtrics on data quality, and we also engaged in a close screening of the data to remove any ineligible participants (e.g., business-to-consumer (B2C) salespeople, straight lined responses and failed attention checks). Seventy-one percent (71%) of the sample is male with an average of 10.6 years in the current position. The data was collected during the months of April and May during the beginning of the COVID-19 shutdowns across much of the United States and world.

4.1 Measurement

Constructs for the current study have been measured utilizing established scales and scales which were adapted to fit a sales context, and for the purposes of this paper, modified to fit specifically into a COVID-19 context. A new scale was developed to capture perceived COVID-19 disruptiveness ($M=4.58$, $SD=1.58$, $\alpha=.76$, Sample item: *Because of Covid-19 my business will never be the same*). Effectuation was measured using the index from Chandler et al. (2011), which was modified to specifically fit a COVID-19 sales context ($M=5.16$, $SD=1.1$, $\alpha=.95$, sample item: *Because of COVID-19 I experimented with different products and sales bundles*). Behrman & Perreault's (1982) measure of sales performance was adapted to fit the time frame of COVID-19 ($M=4.8$, $SD=1.42$, $\alpha=.911$, sample item: *During these past two months, I have been able to generate high dollar sales better than other salespeople in my organization*). Salesperson creativity was measured from Wang and Netermeyer (2004) ($M=5.04$, $SD=1.49$, $\alpha=.94$, sample item: (how often do you engage in this behavior?) *Generating creative new selling ideas*). Firm age was measured in a geometric manner (see Appendix, Table 2 for scale items and measurement properties, see Table 3 for correlations among constructs).

To assess discriminant validity, we took two approaches. First, we used the Fornell and Larcker (1981) criterion. We found that the square root of the average variance extracted (AVE's) was greater than any construct correlation, suggesting that discriminant validity is not a concern. Second, we calculated the heterotrait-monotrait ratio and the average ratio was .24 which was well below the .85 threshold recommended by Voorhees et al. (2016). Since both tests met the criteria, we conclude that our sample exhibits discriminant validity.

We conducted a confirmatory factor analysis (CFA) that incorporated all construct items. The initial CFA model fit the data adequately (CFI = .837, TLI = .825, GFI = .705, RMSEA = .093; Chi-square = 2087.66, DF = 554). Following a judicious re-specification of measurement constraints (e.g. Anderson &

Gerbing, 1982) to ensure the uni-dimensionality of constructs, we removed several items and achieved a better model fit (CFI = .968, TLI = .962, GFI = .904, RMSEA = .054; Chi-square = 381.39, DF = 197). Findings also show no difference between early and late responders in sales experience, percentage goal achieved, gender, age, industry, category, or type of business customer.

The entirety of our first study was collected from one source, thus common method variance (CMV) is a potential issue that deserves multiple levels of examination. To achieve this, we took various study design precautions and post-hoc tests to indicate no issues with CMV. Prior to the study, we utilized an anonymous approach for the survey collection, and participants were notified of their anonymity and the complete confidentiality of all responses (Podsakoff et al., 2003). The survey design also consisted of the dependent variable being asked first, mixing predictor and criterion variable order, using filler questions and using different scales and values. In addition, CMV is mitigated by our study design, because interaction effects decrease problems related to CMV; and multiple independent variables help to partial out any CMV concerns (e.g. Hochstein et al. 2019; Siemsen, Roth & Oliveira 2010). We also conducted several statistical remedies to test for common method bias. The first test involved a common latent factor (CLF); this factor was constrained to load on each item equally and was uncorrelated with each latent construct (Gaskin & Lim, 2017; Rindfleisch, Malter, Ganesan & Moorman, 2008; Widaman 1985). Results pertaining to all hypotheses were found to be stable after the inclusion of the CLF, which also suggests that common methods did not bias our results. The second test involved the marker variable technique discussed by Lindell and Whitney (2001); to conduct this test we included an uncorrelated marker variable (grit passion) that resulted in adjusted correlations that were not significantly different from the original correlation structure. We are pleased to report that CMV is not an issue in this study.

4.2 Results

To test our predictions, a conditional process model was analyzed using the PROCESS macro (Model 11) for SPSS with 5000 bootstrapping samples. In this model, COVID disruptiveness was entered as predictor, salesperson creativity as a moderator, firm age as the moderator of the moderator, COVID effectuation as the mediator, and COVID sales performance as the outcome variable. We predicted that the age of the firm would moderate the effects of salesperson creativity on the relationship between COVID disruptiveness and COVID effectuation (see Figure 2). The moderated path from COVID disruptiveness to effectuation revealed that the main effects of COVID disruptiveness ($\beta = -3.48$, $SE = 1.21$, $p < .00$), salesperson creativity ($\beta = -2.85$, $SE = 1.15$, $p < .01$), and age of the firm ($\beta = -4.83$, $SE = 1.41$, $p < .00$) were all significant. The two-way interactions between COVID disruptiveness and age of the firm ($\beta = .95$, $SE = .28$, $p < .00$), COVID disruptiveness and salesperson creativity ($\beta = .63$, $SE = .22$, $p < .00$), and age of the firm and salesperson creativity ($\beta = .76$, $SE = .27$, $p < .00$) were all significant.

Crucially, all these effects were qualified by our predicted 3-way interaction between COVID disruptiveness, age of the firm and salesperson creativity on salesperson effectuation ($\beta = -.16$, $SE = .05$, $p < .00$). The overall moderated, moderated mediation model was supported with the index of moderated, moderated mediation (effect = $-.09$, 95% CI = $-.154$, $-.017$). As zero is not within the CI, indicating a significant moderating effect of salesperson creativity, age of the firm and COVID disruptiveness on the indirect effect via salesperson effectuation on COVID performance (Hayes, 2015).

In support of our moderated, moderated mediational hypothesis, no significant conditional indirect effect of the COVID disruptiveness on COVID sales performance via effectuation was found for young firms with low levels of salesperson creativity [effect = $-.091$ (95% CI = $-.081$ to $.343$)], however the conditional indirect effect was strongest in older firms with lower salesperson creativity (1 SD below the mean of salesperson creativity; effect = $.37$, $SE = .07$, 95% CI = $.25$, $.51$) and weakest in older firms with high levels of salesperson creativity (1 SD above the mean for salesperson creativity, effect = $.14$, $SE = .05$, 95% CI = $.04$, $.26$). Then, considering the path from salesperson effectuation (i.e., the mediator variable) to COVID-19 performance (i.e., the outcome variable), analyses revealed that salesperson effectuation positively impacted COVID sales performance $\beta = .45$, $p < .000$ (see Figure 2).

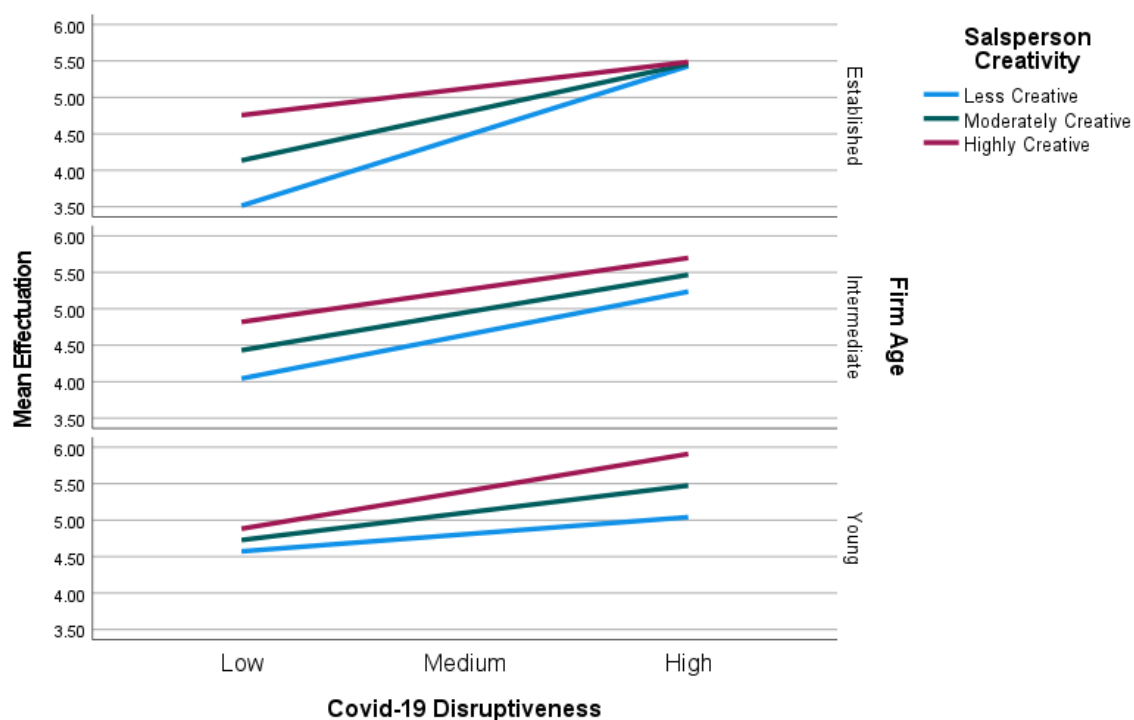


Figure 2: Effectuation at different levels of COVID-19 Disruption, Salesperson Creativity and Firm Age

4.3 Discussion

COVID-19 hit the professional selling world like a truck (Hartmann & Lussier, 2020; Zoltners, Sinha & Lorimer, 2020). In a world undergoing a sudden shock of uncertainty, the effectual decision making often associated with firm founders becomes more broadly useful. In a professional selling

environment characterized by Gavin et al. (2020: 5) as needing a rapid “re-orchestrating (of) the customer experience and the accompanying sales processes”, effectuation appears to be a mechanism through which this rapid re-orchestration can begin to occur. This is possible because as Fisher (2012) asserts, effectuation allows for the mitigation of uncertainty, pragmatic risk management and overcoming resource constraints with action.

Creativity and firm age also interact in meaningful ways such that the least creative person in the oldest firm was able to catch up to their more creative counterparts in terms of effectual decision making. We argue that this is likely because older firms are highly adept at generating and sustaining efficiencies (Amit & Shoemaker, 1993; Thornhill & Amit, 2003); established firms also have processes in place that encourage alignment and problem-solving (Bonney & Williams, 2009). We argue that these policies and procedures likely aid the entirety of the salesforce. We again state that COVID-19 is not run of the mill uncertainty, but the past three decades have witnessed 1997 Asian financial crisis, the early 00's tech stock debacle, the implosion of the LTCM hedge fund, the 08-09 financial crisis and other mini-panics. Thus, many of these older firms likely can engage in memory recall and help their least creative salespeople become more effectual.

The most effectual salespeople were found in the youngest firms, and this is perhaps unsurprising given the entrepreneurial nature of these young firms (Anderson & Yeshima, 2013). We believe that our results are intriguing and provide key insights into “how” effectuation works. Effectuation is a bulwark against uncertainty, and firm age appears to have a positive relationship with the adoption of effectual decision making in a salesforce. The first study shows that effectuation likely proves beneficial in disrupted environments. Our work also suggests that an immutable firm-level characteristic (firm age) has a unique relationship with effectuation. However, the first study provides a “10,000-foot view” of the firm, and we now seek to better understand how firms can make management decisions to encourage effectual decision making. Our second study proposes a more intimate view in the innerworkings of a firm. To aid in this, we utilize the theoretical framework of Kerr (1975) who warned against the folly of rewarding A, while hoping for B.

5. STUDY 2

In his foundational work, Kerr (1975) argued for an acute awareness of the real implications of any action, that is, Kerr cautioned against unintended consequences. Kerr (1975) used examples ranging from tenure decisions to orphanage management to remind us that reward systems are consequential in shaping the behaviors and decisions of involved parties. Moreover, these reward systems can cause a serious misalignment in terms of the wishes of the design as compared to the reality of the implementation. As an example, Kerr (1975) argues that the folly is especially pernicious

in organizational behavior because formal rewards are often inadvertently designed to function in a contrary manner to the actual desired behaviors. For example, a firm might wish to reward teamwork and fair play, but quantification of these elements is difficult at best. So instead, the firm gives out annual individual performance awards; thereby encouraging individual behaviors which may prove contrary to teamwork behaviors. A list of examples could essentially prove infinite, and the key implication of Kerr's work is that the road to hell just might be paved with good intentions. By this he means that the devil is always in the details, and there are hidden causal mechanisms that remain hidden in the most innocuous of actions. As a potential solution, an acute awareness will help anyone to sidestep the (obvious in hindsight) problem of getting what you pay for. We utilize Kerr (1975) and his implications to argue that a firm can have a direct impact on the adoption of effectual decision making, but the firm actions need to be clearly intentioned. Firms need to create incentives for skill acquisition and deployment (Gibbons, 1998). However, this is much easier said than done, as the firms function based upon on the metrics that they track (Hauser & Katz, 1998). In this study, we argue that if a firm wants to create a more entrepreneurial salesforce, specific actions are required. More specifically, for the least creative salespeople, firms need to carefully craft incentives, monitor salespeople from a distance and focus on "bigger picture" elements such as quarterly performance.

As COVID-19 keeps roiling business markets, a distinct approach that firms can take in responding to the ongoing crisis rests in the form of specific management techniques. Specifically, salesforce control systems are management techniques and oversight styles which seek to foster specific behaviors in a salesforce (Anderson & Oliver, 1987). Oliver and Anderson (1994) characterize salesforce control systems as management techniques which either place an increased emphasis on autonomy and an end-results (outcome), or a distinct sales process which can be paternalistic and bureaucratic (activity). We argue that our research context is an apt context for the study at hand because managing a sales force is inherently entrepreneurial; as it involves opportunity seeking, a focus on the future, risk management and earnestness (Morris, Avila & Teeple, 1990; Shane & Venkataraman, 2000). Further, it has long been argued that entrepreneurial management styles improve performance (Pearce, Kramer & Robbins, 1997). To foster entrepreneurial behaviors, managers must both identify and allocate resources intelligently for subordinates to grasp opportunities (Kuratko et al., 2005). However, much remains to be learned about how to make a salesforce more entrepreneurial (Spillecke & Brettel, 2013; 2014).

To aid in this discovery, we utilize Kerr (1975) to argue that firms must be fully cognizant of reward system payoffs and not hope for entrepreneurial behavior while rewarding rote rule following. We find that there needs to be a proper alignment between managerial strategy and the ways in which salespeople are monitored, rewarded and incentivized. This might seem a simple point, but we argue

that there is great depth because a misalignment can lead to negative consequences, such as goal displacement or ceiling effects. Goal displacement occurs when managers install systems that incentivize behaviors that are not expressly desired (Kerr, 1975). In addition, Ordóñez and colleagues (2009: 9) cautioned strongly against overly specific goals, and the possibility of goals to function as a “ceiling”. In terms of activity controls, the ceiling impact is immediately obvious when considering that prescribed behaviors (set # of phone calls, site visits etc.) do not incentivize any “above-and-beyond” behaviors by less creative salespeople. There is no reason for these salespeople to become effectual; in fact, becoming effectual might harm the attainment of their prescribed activity goals.

At its core, strategy implementation is a question of resource deployment and allocation, thus, we argue that salesforce control systems represent a salesforce strategy (e.g. Cron et al., 2014) with which firms can implement entrepreneurial selling behaviors. Five factors influence entrepreneurial activity in firms, management support, autonomy, rewards, time potential and flexible boundaries (Hornsby et al., 2009; Kuratko, Evans & Hornby, 2014; Kuratko et al., 2001; Kuratko et al., 1990). As such, we argue that effectuation is a logical consequence of an outcome-focused approach because effectuation does not involve elaborate planning and instead centers around utilizing available resources (Fisher, 2012).

We approach effectuation from the managerial level and ascertain if effectuation can be managed in a salesperson. We make two important contributions in doing this. First, effectuation can be encouraged and this is substantive because there have been repeated calls in the sales literature stream on developing an entrepreneurially minded salesperson/salesforce, however the practical implementation of this aim has not received adequate attention (Ingram et al., 2005; Jones, Roberts & Chonko, 2000; Morris, Avila & Teeple, 1990). Second, we show that control system alterations allow for an entrepreneurial boost in less creative salespeople. This finding provides insight that the less creative salespeople need to be paid closer attention and have different control system structures in places than their more creative counterparts.

5.1 Methodology

Our hypothesis for this study (i.e., **H8**) is examined through an experimental design where management control systems are manipulated by video scenarios placing salesperson subjects into differing salesforce control systems (i.e. outcome or activity). More specifically, participants watched a realistic scenario in which a “new” sales manager explained to them the “rules of the game”. We followed the instructions of Podsakoff and colleagues (2011; 2013) and ensured that videos were consistent and contained the same types of non-verbal behaviors and verbal cues. We recorded the video manipulations at the same time of day and the actor rehearsed the script carefully as to ensure that all participants had the same experience regardless of manipulation condition (see Appendix,

Table 4 for transcripts and links to videos). Following the video manipulation, participants answered a brief survey that ascertained the likelihood of engaging in effectual decision-making, salesperson creative behaviors, various demographics questions, and several attention checks (i.e. reverse coded items, questions which asked the participant to select a certain answer). Thus, we examined the causal relationship between control systems and salesperson effectuation by experimentally manipulating two control systems as an independent variable. To refine and assess the appropriateness of these experimental manipulations, a pre-test was utilized to examine and refine the video scenario manipulations prior to examining the hypotheses in the main study.

The sample for study 2 contains four hundred and ten (410) professional B2B salespeople and was also acquired from Qualtrics panel services. The sample itself consists of professional B2B salespeople from different companies and geographic regions, as well as across various industries. All sampled data contains salespeople with more than three years of experience who are exclusively involved in B2B sales (see Appendix, Table 1). Again, we closely collaborated with Qualtrics on data quality, and closely screened the data to remove any ineligible participants (e.g., business-to-consumer (B2C) salespeople, inside salespeople, straight lined responses and failed attention checks). For this study, we followed the guidelines of Arndt and colleagues (2021) and utilized both statistical and direct screeners to improve data quality. For a direct screener, we queried respondents on “what is this study about”, any response that was written in a foreign language, was nonsensical or appeared as if a bot had written it was summarily removed. In addition, responses that were below an agreed upon threshold with Qualtrics (i.e., 7 minutes) were also removed. We also utilized various attention checks that were reverse-coded and removed respondents who had a positive correlation between the items.

5.1.1 Measurement

The measures from this study were all utilized in the previous study and include the effectuation index from Chandler and colleagues (2011); ($M=5.52$, $SD=.84$, $\alpha=.92$). As well as salesperson creativity (Wang & Netermeyer, 2004). ($M=4.01$, $SD=.8$, $\alpha=.89$, see Appendix, Table 2 for scale items).

5.1.2 Pre-Test of Experimental Manipulations

The pre-test was sent to sixty-seven (67) MBA Sales students at a large University in the Southeast. The subjects were randomly assigned and watched a video in which their ostensibly new sales manager was explaining the current sales environment, his expectations, as well as how the salesperson was to be monitored, rewarded and punished based on adherence to a specific set of goals.

The manipulations of the salesforce control system were inspired from Challagalla and Shervani (1996) and adapted to fit this specific context We manipulated the control system that the salesperson

found themselves operating under with their sales manager. For example, in the “outcome” video, the sales manager explained to the salesperson that he was going to focus exclusively on sales performance. In this video, the manager explained that monitoring, feedback, and rewards are all centered on the salesperson hitting their performance goals. In the “activity” video, the sales manager explained to the salesperson that he was going to focus exclusively on sales activities (required site visits, sales calls). In this video, the sales manager explained that monitoring, feedback and rewards all centered on the salesperson hitting their activity goals.

Survey responses based on established scales measuring the use of outcome and activity rewards (i.e., Challagalla and Shervani 1996) provided an initial manipulation check. Subjects in the “outcome” condition reported higher levels of outcome control than those in the “activity” condition ($M = 5.33$ vs. 4.55 , $F(1,64)=2.44$, $p = .02$). Similarly, Subjects in the “activity” condition reported higher levels of activity control than those in the “outcome” condition ($M=5.20$ vs 4.18 , $F(1,64)= 2.37$, $p = .01$). The purpose of a manipulation check is to establish congruence with the measure, and ensure we are manipulating what is intended (Babin, Boles & Darden, 1995).

5.2 Results

In the main study, the manipulation check utilized the same measures as in the pre-test and was again, successful. The manipulation check was conducted using an independent samples t-test. The subjects in the “outcome” condition reported higher outcome controls from their “new sales manager” ($M=5.42$), as compared to the subjects in the “activity” condition ($M=4.09$, $F(1,408)=22.66$, $p < .001$). Likewise, the subjects in the “activity” condition reported higher activity controls ($M=5.9$), as compared to the subjects in the “outcome” condition ($M=4.25$, $F(1,408)= 45.72$, $p < .001$).

A multiple linear regression was used to test if the level of salesperson creativity and the control system (outcome/activity) significantly predicted effectuation in a salesperson. The significant regression equation ($F(3,406)=68.58$, $p < .001$), with an R^2 of .331 provides confirmation for **H8**. Further, we find that salesperson creativity significantly predicts effectuation ($\beta = .27$, $p < .05$), as did the control system ($\beta = -.92$, $p < .01$). Finally, we find a significant interaction between salesperson creativity and control systems ($\beta = .22$, $p < .05$), indicating that highly creative salespeople are more likely to engage in effectuation regardless of the control system, while less creative people are more likely to engage in effectuation when rewards are based on outcome controls, rather than activity controls. See table 6 for study details (see Table 6).

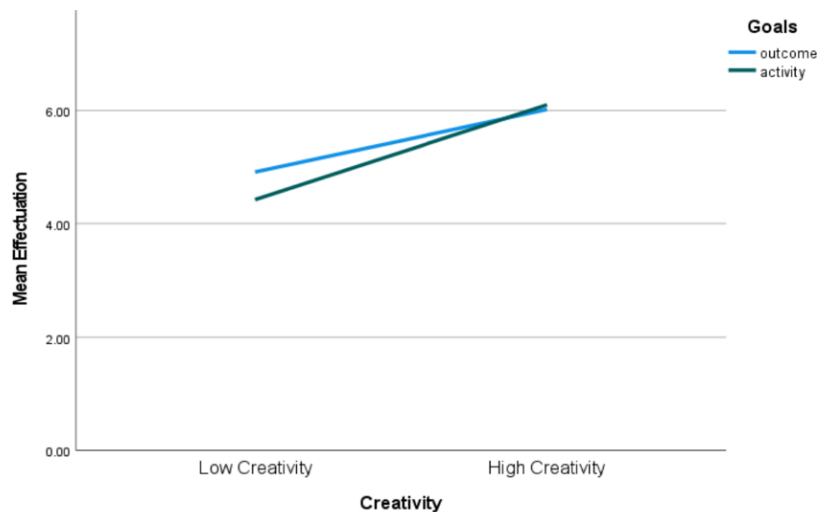


Figure 3: Effectuation for High and Low Creativity Salespeople by Goal Type

5.3 Discussion

Kerr (1975) argues that proper management rests upon a realistic appraisal of (a) what behavior is *actually* being rewarded, and (b) have formal reward systems which reinforce the desired behavior and *do not* function as an impediment to the desired behavior. We believe that our study builds upon this logic by highlighting that everyone can be entrepreneurial. As with study 1, more creative people were predisposed towards effectuation, but less creative people can be induced to become more effectual. More specifically, when faced with high levels of COVID-19 disruption, rewards associated with outcomes that left behaviors up to the salesperson facilitated more effectuations among less creative salespeople, relative to rewards based on behaviors specified by the company.

Lumpkin, Cogliser and Schneider (2009) note a paucity of research on autonomy and entrepreneurial forms of behavior. We answer the call for this type of research by showing that allowing for more autonomy will help to bolster the entrepreneurial abilities of less creative salespeople. For example, for the management of effectuation, outcome controls allow less creative salespeople to become more effectual. For less creative salespeople, rewarding autonomy will lead to more effectuation. Sarasvathy (2001) originally argued that effectuation was driven by an individual realistically assessing available options. For a less creative salesperson in an outcome-based system, generalized aspirations i.e. management of a turbulent situation (e.g. Krafft, 1999) is attained via a realistic appraisal of the situation e.g. “unalterable circumstances of the decision-maker” (Sarasvathy 2001: 49). We argue that the less creative person adapts to the environment and engages in effectual action because of the freedom afforded by an outcome system. Inversely, activity-based controls are detrimental for less creative salespeople because they give the salesperson explicit tasks which may/may not be effectual. Activity-based controls are widely utilized in the contemporary selling environment. For example, technological advancement drives their implementation (e.g. Samaraweera & Gelb, 2015); and because of the ease of implementation, activity goals are increasingly utilized to craft financial incentives

around (Rao et al., 2021). Another reason for their popularity is that activity systems give salespeople higher levels of procedural knowledge (Jaramillo, Bande & Verela, 2015). However, sales managers who desire entrepreneurially minded salespeople yet place their less creative charges in activity-based systems are at risk of engaging in Kerr's folly (1975). It is likely tempting and reassuring to place prescriptive bounds around the behavior of salespeople and in many instances it is sensible. However, in the face of a huge disruption, reducing oversight and providing autonomy provides salespeople the freedom to create opportunities. We would be remiss to remind readers to not keep with Kerr's (1975) warnings; as we do offer caution about outcome-based systems as they can prove a double-edged sword in terms of unethical behavior (Robertson & Anderson, 1993); or by placing an intense focus on short-term gains (Bonney, Plouffe & Brady, 2016).

6. CONCLUSION

We recommend that sales force managers initially focus on a small subset of impacts that they can respond to immediately, and then update their focus and response efforts as progress is made on the subset and additional information becomes available" Hartmann & Lussier (2020:109)

Our evidence demonstrating how salespeople adopt the effectual techniques of firm founders during COVID-19 based disruption has broad implications for theory and practice. As noted by the quotes from Sarasvathy at the beginning of our article, and Hartmann and Lussier above, in times of great uncertainty, the people who we associate with decision making under uncertainty have lessons for all of us. If entrepreneurship is defined by creating value while managing uncertainty, we must all be more entrepreneurial in times of great disruption. Furthermore, if entrepreneurship is a decision making logic, it can be adopted by anyone. We can all be more entrepreneurial in times of great disruption. Notably, as we broaden our understanding of the phenomenon of entrepreneurship and the behaviors we associate with entrepreneurs, we raise new questions and opportunities for learning about the contexts, beyond firm founding, in which entrepreneurial decision making and behaviors may have value.

Despite hundreds of years of scholars suggesting that entrepreneurs are uniquely suited to handle the uncertainty of dynamic environments (Cantillon, 1755; Say, 1803), only recently have we begun to understand the effectual decision making that allows them to do so (Sarasvathy, 2001; Read et al., 2009; Welter & Kim, 2018). No decision making process can completely eliminate the damage of having a customer go bankrupt, or making business transactions illegal, but adopting an entrepreneurial mindset helped mitigate the harm. We find that salespeople who have been severely disrupted by COVID-19 can minimize the damage by acting to preserve flexibility, keeping losses

affordable, establishing strategic partnerships, and experimenting with new processes and techniques in this newly uncertain environment.

The key takeaway is that effectual strategies are beneficial for entrepreneurial salespeople who are operating in disruptive environments. Under these environmental conditions, entrepreneurial behaviors are both warranted and impactful (Hermes & Mainela, 2014; Welter & Smallbone, 2011). Grégoire and Cherchem (2020: 622) contend that effectuation is best conceived as a “mode of action.” Salespeople are encouraged to further employ this specific mode of action, and other types of entrepreneurial behaviors. For salespeople, these entrepreneurial behaviors may possibly make the difference between the unemployment office and a paycheck during this difficult period.

Our evidence shows that effectuation processes help salespeople to mitigate the damage associated with the COVID-19 crisis. To suggest that people should be entrepreneurs is to imply that they can. Owing to this, our studies support calls for ordinary people to be more entrepreneurial and explains one path by which they might do so (Shepherd, 2020). We also contribute to knowledge on boundary conditions and performance (e.g. Jiang and Rüling, 2019; McKelvie et al., 2020); as well as examining effectuation under conditions of an economic crisis (e.g. Laskovaia, Marino, Shirokova & Wales, 2018; Shirokova, Osiyevskyy, Laskovaia & MahdaviMazdeh, 2020). In showing that that non-founders can adopt entrepreneurial decision making processes in times of great uncertainty, we contribute to the development of effectuation.

Theoretical research has suggested that highly creative people are more effectual, and this finding was borne out in our studies. For the most creative people, organizational and contextual factors mattered less to their adoption of effectuation. This might seem counter-intuitive, but we argue that it is not. Sarasvathy (2001) contends that effectuation can be likened to cooking dinner, most people typically use what is available in their cabinets to decide dinner. For the creative salesperson their means *are* what is available, i.e., the proverbial ingredients in the kitchen. For the highly creative, becoming more entrepreneurial is not necessarily contingent on their firms. However, for less creative salespeople, the negative impact of activity goals on entrepreneurial behaviors are explained by the adherence to a strong understanding of the most efficient processes. This is not a surprising result, and it allows us to refer to Kerr’s (1975) admonishment to not obsess over highly visible behaviors (e.g. # of site visits, # of e-mails, etc.); and instead, focus on altering the reward system. Our first study revealed that as Covid-19 disrupted the business world, less creative salespeople naturally became more effectual. This was especially true for the oldest firms. The second study highlights that increasing the autonomy of B2B salespeople is a valuable tool in a disrupted environment. Activity systems do not reward autonomy and will not help less creative people to reach their fullest potential in a disrupted environment.

6.1 Contribution to Practice

A key finding of this study is that activity goals impede less creative salespeople from living up to their fullest potential. This is a substantive finding, and one that should be heeded. Creativity is something that can be trained and encouraged; however, highly prescribed systems can serve as a limiting factor in encouraging entrepreneurial behaviors. Goal setting should be conscious and taken with great forethought (Ordonez et al., 2009). Research has also examined how control systems can influence the adoption of customer-focused selling and learning goal orientation (e.g. Guenzi, Baldauf and Panagopolous, 2014; Kohli, Shervani and Challagalla, 1998). We distinctly focus on the environment and show that entrepreneurship is not only possible in any salesforce, but it also becomes eminently reasonable to expect that a salesforce can be made more entrepreneurial by engaging in control system alterations. Finally, entrepreneurship as a mode of action holds promising avenues for practitioners. Actions that implement effectual processes might include experimenting with ways to make ZOOM calls more engaging, allowing customers/prospects to set flexible contract terms, and adopting a stakeholder approach towards sharing both risk and reward. Market actors should acutely focus on what they can control, because prediction is a difficult endeavor in the best of times. Educators have adopted a variety of strategies to teach effectuation (Fernandez & Duval-Coetil, 2017; Blenker et al., 2012) that firms in uncertain environments could adopt, and, firms could screen people for effectual tendencies. In this way, effectuation is a practical path for anyone to be an entrepreneur.

In sum, we argue that the broader sales community is wise to consider effectuation, but to remember that effectuation is not a panacea. This again brings up the evergreen warnings of Kerr (1975); which are something to consider in perpetuity. The warnings are relevant for management, as well as individual salespeople. Salespeople need to consider their own behaviors with customers, and how they can accidentally hope for A, while rewarding B.

6.2 Limitations and Future Research

We often associate entrepreneurship with the dexterity of small businesses to adapt to change quickly. However, COVID-19 was particularly hard on small businesses, especially retailers, as they lost ground to large firms like Amazon. These businesses were certainly resource constrained (Bartik et al., 2020), but some evidence suggests that many of the small, owner operated firms that struggled the most were slow to change (Dua, Mahajan, Oyer, & Ramaswamy, 2020). Perhaps these firms, like our salespeople, needed to be more entrepreneurial. Future research should examine when people other than founders, or for that matter, founders themselves, should adopt effectual decision processes. Additional questions about how large established firms can promote effectuation are outside the scope of our study but remain promising areas for future research.

We have also established a clear link between entrepreneurship and sales that warrants an even closer examination. There is a need for more research on the benefits of entrepreneurial decision making for salespeople (Epler & Leach, 2021; Matthews, Chalmers & Fraser, 2018). The contemporary sales environment is increasingly requiring sales/service ambidexterity alongside a holistic environmental focus (Hochstein et al., 2021; Hartmann, Wieland & Vargo, 2018). Because of the network component, effectuation complements both conceptualizations (Fisher 2012). However, knowledge about how effectuation evolves and changes across networks is still in its infancy (e.g. Kerr & Coviello, 2020; Rapp, 2022) and we encourage future research into how effectuation alters market participants.

Reuber, Fischer and Coviello (2016) argue that the meaning of effectuation likely changes given different contexts; and we contribute to theoretical development of effectuation by establishing the notion of affordable loss in a sales specific context. It is unlikely that an individual salesperson could risk the entire business, however, individual salespeople have both financial and non-financial resources (e.g. sales budget, time, energy) that they must closely guard. Future research should investigate the consequences of financial and non-financial resources and the benefits of establishing parameters around what constitutes an “affordable loss”.

Future research should also examine the impact of informal controls and combinations of control systems as it pertains to the adoption of effectual decision making. More specifically, as Malek, Sarin and Jaworski (2018; 2021) suggest, we encourage researchers to take an even deeper dive into the informal aspects of salesforce control systems. By this, we mean that very little is known about how others view in individuals who are engaged in effectuation. Does witnessing effectuation make an individual more likely to model the behaviors? What are the impacts on morale and motivation levels? There are many fascinating questions about effectuation which are yet unanswered. In closing, while this study specifically examines how to influence effectuation in a salesforce; the pandemic is still constantly reinforcing Sarasvathy’s idea that that we all need to be entrepreneurs. We hope that our work provides practical guidance for anyone who wants to pivot and elevate entrepreneurial behaviors in any endeavor

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APPENDIX 1: TABLES**Table 1: Sample characteristics**

		Study 1	Study 2
N		319	417
Sex	Male	68 %	60 %
	Female	32 %	40 %
Age	Less than 20	0 %	0 %
	20-39	24 %	46 %
	40-59	48 %	43 %
	60+	28 %	11 %
Years in Sales	3 to 5	14 %	23 %
	5 to 10	25 %	33 %
	10 to 20	27 %	27 %
	20+	34 %	17 %
Years in Current Position	0 to 5	38 %	50 %
	5 to 10	27 %	26 %
	10 to 20	22 %	19 %
	20+	13 %	5 %
Business/Industry	Professional and business services	37 %	33 %
	Industrial manufacturing	13 %	10 %
	Medical, Tech and biotech products or services.	13 %	16 %
	Agriculture.	1 %	2 %
	Consumer products manufacturing	8 %	12 %
	Wholesaler	14 %	12 %
	Other	14 %	15 %
Typical Customer	Manufacturers	16 %	14 %
	Distributors and wholesalers	19 %	13 %
	Retailers	18 %	27 %
	Service Providers	24 %	25 %
	Governments and nonprofits	5 %	5 %
	Other	18 %	16 %
Experimental Condition	Outcome Control		50 %
	Activity Control		50 %

Table 2: Measurement of Constructs

Model construct and items	Study 1		Study 2	
	α	SFL	α	SFL
Market Dynamism due to COVID-19^Y	.70			
Because of COVID-19, my business will never be the same.		.68 **		
COVID-19 was a huge shock.		.58 **		
COVID-19 devastated my business.		.72 **		
How has COVID-19 impacted your business? ^ß				
Salesperson Effectuation (Chandler et al. 2011)^Y	.90		.86	
When making decisions on how to approach this sales environment ...				
... I will experiment with different products and sales bundles.		.65 **		.72 **
... I will experiment with different approaches across my target customers.		.73 **		.72 **
... I will try a number of different approaches until I find a sales strategy that works in my territory		.71 **		.74 **
... I work closely with people external to my organization to expand our capabilities.		.70 **		.71 **
... I find partnerships with outside organizations to improve my ability to sell our products.		.74 **		.67 **
... I will allow my selling strategies to evolve as opportunities emerge.		.71 **		.68 **
Salesperson Creativity (Wang & Netermeyer 2004)^ð	.70		.88	
How often do you engage in the following behaviors and thoughts?				
Carrying out sales tasks in ways that are resourceful.		.88 **		.62 **
Coming up with new ideas for satisfying customer needs.		.91 **		.84 **
Generating and evaluating multiple alternatives for novel customer problems.		.91 **		.80 **
Having fresh perspectives on old problems.		.89 **		.76 **
Improvising methods for solving a problem when an answer is not apparent.		.89 **		.60 **
Generating creative new selling ideas.		.88 **		.79 **
Sales Performance (Behrman & Perreault 1982)^Y	.93			
How did you perform in the following areas relative to other salespeople in your organization since the COVID-19 crisis began? During these past two months I have been able to ...				
... generate high dollar sales better than other salespeople in my organization.		.85 **		
... develop strong customer relationships better than other salespeople in my organization.		.90 **		
... sell to major accounts in my territory better than other salespeople in my organization.		.89 **		
... maintain a high closing ratio better than other salespeople in my organization		.88 **		
... exceed sales targets and objectives for my territory better than other salespeople in my organization.		.87 **		
Outcome Control Manipulation Check^Y			.92	
<i>I've been told the expected level of achievement on sales volume or market share targets.</i>				.83 **
My manager monitors my performance on achieving sales volume or market share targets.				.90 **
I would be recognized by my manager if I perform well on sales volume or market share targets.				.85 **
I receive frequent feedback on whether I am meeting expected achievement on sales volume or market share targets.				.86 **
Activity Control manipulation Check^Y			.91	
<i>My manager informs me about the sales activities I am expected to perform</i>				.80 **
My manager monitors how I perform required sales activities				.82 **
My manager informs me on whether I meet his/her expectations on sales activities				.89 **
I would be recognized by my manager if I perform sales activities well				.87 **
Measurement Model Goodness of Fit Statistics				
Chi-square / df		381.39 / 197		310.92 / 162
CFI / TLI / GFI / RMSEA		.968 / .962 / .904 / .054 ^{ns}		.969 / .964 / .931 / .047

**p<0.01.

^ß item removed during re-specification of measurement model^Y 7-point Likert scale anchored by strongly agree and strongly disagree^ð 5-point scale anchored almost never to most of the time

Table 3: Study 1 Correlation Matrix

	MD	SE	SC
Market Dynamism due to COVID-19			
Salesperson Effectuation	.41**		
Salesperson Creativity	-.02	.22**	
Sales Performance	-.23**	.30**	.15**

**p<0.01

Table 4: Experimental Manipulations

Concept	Video Transcript ^a
Prime: Dynamic Environment	Hello, for those who have not met me yet, I am your new sales manager. I am communicating with you today because I want to ensure that everyone on our team is aware of what is important to me and that we are all on the same page as to what I am going to expect from you this year. First of all, projections and outlooks for this year call for much of the same as 2020. That is, we expect to have high levels of turbulence and uncertainty in our marketplace. So, we will have to continue to make spot adjustments as product availability may change with little notice. Customer needs and even our customer segments may change throughout the year. In sum, expect the rest of 2021 to remain as crazy and unpredictable as last year.
Outcome Control vs. Activity Control	
<i>Outcome Control</i>	As such, I am not going to monitor what selling activities you do every week. In fact, I am not interested in what you do to get yourself to your goals. I just need you to make your goals and hit your targets! I am going to monitor your progress towards your sales goals weekly. I will be sending out emails every Monday providing you feedback on your progress. I expect that if you start falling below expectations that you will reach out to me for assistance. At the end of the day, you need to figure out how to make your sales goals. Making your goals will result in recognition and financial success. In fact, bonuses this year will depend entirely on the percent of goal you reach.
<i>Activity Control</i>	As such, I don't plan to monitor your progress toward your sales goals very closely. In fact, I am much less interested in you reaching your goals and more interested in making sure that you are engaging with customers every week. Therefore, specific activities will be assigned and each week you will need to engage in a specific number of face-to-face customer meetings, number of outbound calls you make, and the number of inbound calls you field. I am going to monitor your progress on these activities weekly. I will be sending out emails to each of you every Monday providing you feedback on your compliance. Making sure you complete these activities every week will result in recognition and financial success. In fact, bonuses this year will largely depend on you consistently fulfilling these weekly requirements.

^aVideos viewable on YouTube: Activity Control - https://youtu.be/EM_ZqUj0aL0
Outcome Control - <https://youtu.be/f2oakLjYt8g>

A STUDY ON THE EFFECT OF ONLINE AND OFFLINE TOUCHPOINTS ON CUSTOMER EXPERIENCE: THE CASE OF THE OMNICHANNEL STRATEGY IN EGYPT

Fattouh, Mohamed¹; Dinana, Hesham²

¹Arab Academy for Science, Technology and Maritime Transport, Cairo, Egypt

²The American University in Cairo, Cairo, Egypt

ABSTRACT

Purpose - Aiming to present a conceptual framework for examining the impact of touchpoints on customer experience to allow brands to successfully implement omnichannel strategies that integrate all touchpoints for a seamless customer experience, where touchpoints (digital, physical, and human) represent the types of interactions that customers have with the brand, the overall customer experience represents the total sum of experiences (sensory, cognitive, affective, behavioral, and social) in the mind of the customer, and touchpoints contain components that affect each customer experience dimension.

Design/methodology/approach - A conceptual model of fourteen hypotheses for the impact of each type of touchpoint on customer experience dimensions has been developed. The research used a mixed research design. Firstly, qualitative interviews with ten respondents, consisting of five customers and five experts, were conducted to describe their assessments and understanding of the area under study. Then a quantitative research design was undertaken, and 416 useful respondents were included in the survey.

Findings - The results indicate that the three types of touchpoints positively influence each customer experience dimension and explain 45% to 60% of their variability. Thus, touchpoints are the major determinants of customer experience. Also, evaluating each touchpoint through customer experience dimensions is more accurate than using overall experience in customer mind, that will lead to proficiently design of each touchpoint. Integrations properly between touchpoints through omnichannel strategy will positively enhance the customer experience and brand performance.

Originality – Covering all types of touchpoints (online and offline) and their impact on all different levels of customer experience, this backs up researchers' calls for more research on omnichannel strategy, how to implement it, and how it affects customer experience and brand performance.

Keywords: Touchpoints, digital touchpoint, physical touchpoint, human touchpoint, omnichannel, customer experience

1. INTRODUCTION

The Experience Economy: Personal consumption expenditure on experience-related services has achieved more monumental growth than overall personal consumption spending and expenditure on goods. This led brands to quickly identify this growth and the need to create superior customer experiences. As services like goods become increasingly commoditized, experiences have emerged, and this has led brands to create an unprecedented competitive advantage by offering superior customer experiences. The experience economy has fundamentally changed how companies go to market, influence their buyers, and engage people throughout the customer journey. This will lead to customer loyalty where sales growth goes to experiences and not products.

There are shifts in consumer spending behavior; a more holistic perspective on what leads to happiness (where shared experiences with friends and family have a deeper psychological link to long-term intrinsic happiness than buying products does); the growing importance of social media (where social media also appears to have helped accelerate the growing demand for experiences). Customer experiences are made up of many touchpoints, interactions, and exposures that a customer has with a brand (products, services, employees, and marketing messages across multiple channels over the duration of the relationship), and for a memorable customer experience, companies need to move from touchpoints to journeys. Improving customer experience needs shifting from touchpoints to journeys; observing and understanding the interaction through the customer's eyes; shaping and redesigning the business from the customer's perspective, such as digitalizing processes; and aligning the organisation to deliver tangible outcomes.

Touchpoints and Digitalization: The fast growth of digitalization created new digital channels that customers use to interact with brands, in addition to the ordinary channels that customers use to interact, which opens a vast research field for academics and practitioners. The purpose of the research is to improve knowledge about the actual types of touchpoints (TPs) that customers interact with brands through and how this interaction affects their customer experience (CX). Examining actual TPs will make it easier to define and classify different channels through which customers interact with the brand, which will make it easier to establish a strategy to integrate all these channels into what is called an omnichannel strategy that seeks to provide customers with integrated experiences that enable them to transfer between TPs without feeling lost. That will highly impact their experience and satisfaction for better brand performance. Deriving from here, this paper aims to

answer the following questions; how has digitalization impacted the types of TPs that customers use to interact with brands? how do touchpoints impact the CX?

2. LITERATURE REVIEW & HYPOTHESES DEVELOPMENT

2.1 Touchpoints:

A touchpoint is any point of interaction with a customer or potential customer at any stage of the customer journey, before, during, or after the purchase of a brand's product or service. Bolton et al. (2018) defined three interaction dimensions to be developed: digital, physical, and social, with the need to integrate between them and their capabilities and resources. Digital TP and related channels are those online and mobile interactions in which customers interact with a company. The digital environment offers effective tools for community building, such as virtual brand communities that make customers spend more time with the brand and actively engage them. With digital TP, communication is direct from the company to the customer, and digital service provides customers with better choice, access, control, and convenience over traditional service channels (Merisavo, 2003; Straker et al., 2015). **Digital TP** enables consumers to browse and shop anytime, anywhere, and technologies such as augmented reality and 3D virtual models can improve the online shopping experience using interactive and new technologies (Blázquez, 2014). **Physical TP** includes physical interactions with the store environment and products. The store environment represents the contextual landscape for the service environment and includes ambient conditions, spatial layout and functionality, and the exterior physical environment (Bitner, 1990). The store environment shapes both the expectations of the customer and their satisfaction and influences the nature and quality of customer and employee interactions that impact the social interaction between and among customers and employees (Bitner, 1992).

Product experience is a concept that studies the impact of product quality on CX. Product quality is defined by seven dimensions: performance, features, aesthetics, durability, ease of use, reliability, and serviceability (Guru et al., 2020; Hoe et al., 2018). Customer reactions to various products are related to the design of a product's or service's characteristics, which is related to their experiences with a products or benefits in comparison to their expectations (Kenyon et al., 2011). **Human TP** appeals to the need to be perceived positively by other individuals (e.g., employees and peer customers) and relates the person to a broader social system (Schmitt, 1999), and this interaction is either directly face-to-face in-store, or indirectly through telephone or using social media (Shaw, 2018), or service robots as a type of non-human automated social interaction (Van Doorn et al., 2017). Brands' social media sites contain fun elements, provide customer-focused service, and supply two-way interaction platforms that enable users to influence each other. That leads to customer trust, and this trust gained

while enjoying entertainment and communication contributes greatly toward the brand's profit (Kim et al., 2010). Social interactions enable users who contribute to brand-related social media platforms to meet like-minded others, interact, and talk with them about specific products or brands (Godey et al., 2016).

2.2 Customer Experience

CX includes various levels of interaction with consumers, these dimensions must be examined to demonstrate the wide range of the concept. Schmitt (1999) defined Strategic Experiential Modules (SEMs) for measuring customer experiences. The experiential dimensions include sensory experiences (SENSE), affective experiences (FEEL), creative cognitive experiences (THINK), physical experiences, behaviors, and lifestyles (ACT), and social-identity experiences that result from relating to a reference group or culture (RELATE). Dimensions of CX include cognitive, affective, behavioral, sensory, and social to offer a broader, holistic, and comprehensive vision of CX (Schmitt, 2010; Brakus et al., 2009; Gentile et al., 2007; Verhoef et al., 2009; Lemon et al., 2016). CX has a direct impact on customer satisfaction (Oliver et al., 1999), and that satisfaction will lead to customer repurchase intention and improving in sales volume (Hellier et al., 2002), and improvements in brand equity that represents the value of the brand in customer's mind and makes the brand with its products memorable, easily recognizable, and superior in quality and reliability (Pappu et al. 2006).

2.3 Impact of touchpoints on customer experience

Stimulus organism response theory states that there is a stimulus that triggers a response based on the internal feelings or behavior of an organism (person), and this internal processing of the stimulus can be conscious or unconscious (Eroglu et al., 2003). That mean each TP contains elements or components that affect CX. Each component affects one or more dimensions of CX, e.g. webpage design (colors, design, ease of use, etc.) affects the sensory experience that makes the customer feel comfortable and affects the emotional experience by making the customer feel enjoyable. Digital and Human TPs impact the five CX dimensions. Physical TP impacts cognitive, affective, behavioral, and sensory experiences, with no impact on social experience, as social robots are not widely distributed to use yet.

2.4 Omnichannel Marketing Strategy

The omnichannel strategy seeks to integrate all TPs and related channels for consistency in CX. The strategy framework contains: 1-Experience quality, which stresses the quality of TP interaction and impacts perceived quality and overall CX through the quality of digital interaction, physical environment, product or service, and social interaction (Zomerdijs et al., 2010; Ismail et al., 2011); 2-Experience capabilities that are used by businesses to create and manage CX, such as organizational capability, human capability (Gupta, 2012), and technological capability (Getoar, 2019; Sahu et al.,

2018); 3-Integrate all information systems that emphasise consistency, accuracy, and reliability of information when customers switch between different channels during their customer journey (Lemon and Verhoef, 2016); and use information analysis that uses customer data for better decisions (Kumar et al., 2015); 4-Integrate digital technology into stores to provide information about the availability of items, supplement information on product ranges, browse a wider range of products and sizes, compare prices, and search for reviews (Aubrey et al., 2012); 5-Integrate the operations of product delivery and order fulfillment processes during the customer's journey, including shipping information, logistics, and return policies (Kembro et al., 2018; Wollenburg et al., 2018). Based on the above discussions, the main three hypotheses divided to fourteen in Figure 1:

H1: Digital TP significantly and positively impact the CX

H1A: Digital TP significantly& positively impact sensory CX.

H1B: Digital TP significantly& positively impact cognitive CX.

H1C: Digital TP significantly& positively impact affective CX.

H1D: Digital TP significantly& positively impact behavior CX.

H1E: Digital TP significantly& positively impact social CX.

H2: Physical TP significantly and positively impact the CX

H2A: Physical TP significantly& positively impact sensory CX.

H2B: Physical TP significantly& positively impact cognitive CX.

H2C: Physical TP significantly& positively impact affective CX.

H2D: Physical TP significantly& positively impact behavior CX.

(No impact of physical TP on social CX as social robots are not widely distributed to use)

H3: Human TP significantly and positively impact the CX

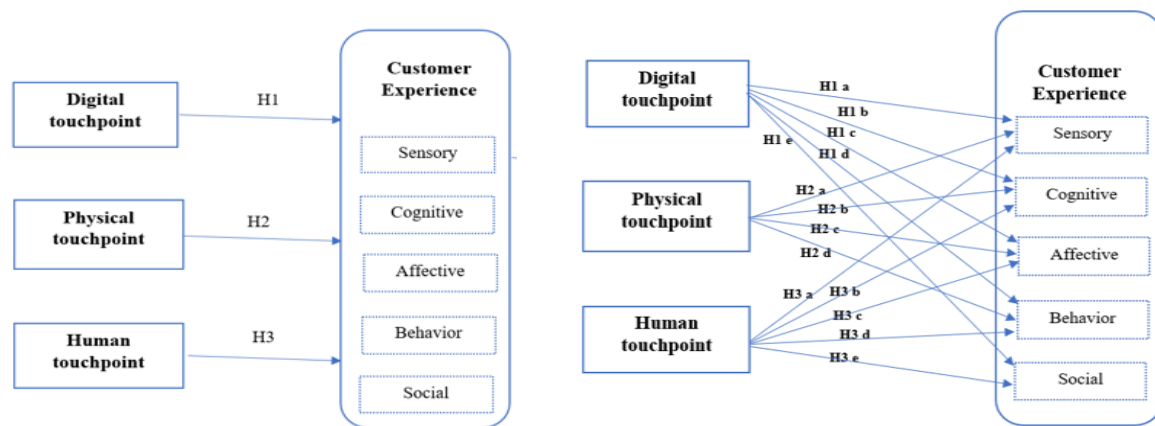
H3A: Human TP significantly& positively influences sensory CX

H3B: Human TP significantly& positively impact cognitive CX.

H3C: Human TP significantly& positively impact affective CX.

H3D: Human TP significantly& positively impact behavior CX.

H3E: Human TP significantly& positively impact social CX.

Figure 1: *Conceptual model & Hypothesis*

3. METHODOLOGY

The research used a mixed research design. Firstly, qualitative analysis was conducted through interviews with experts and customers to explore the relations between different variables. In-depth interviews of a total of ten samples were split between five experts and five customers. Secondly, quantitative analysis using questionnaires distributed to a specific sample of customers to investigate the relations between different dependent and independent variables. The quantitative survey questionnaires targeted customers who used online shopping between May and June 2021. The questionnaires were collected through an online survey. Out of the 441 questionnaires answered, 416 were completed and fulfilled the selection criteria. Table 1 summarizes the measurement scales for the variables and includes references. Bleier et al. (2018) developed a measure for online or digital TP as verbal elements, visual elements, and verbal/ visual elements that will affect CX dimensions. Bustamante et al. (2016) developed a scale to measure the impact of stores on CX, to provide the best structure for measuring in-store CX.

Variable	Dimension	Source	Measurement Scale
Digital TP	Component of digital that affects sensory, cognitive, affective, and behavior experiences	(Bleier et al., 2018)	Seven-point Likert-type scale to indicate agreement or disagreement
	Component of digital that affects the online social experience	(Song et al., 2008)	Seven-point Likert-type scale to indicate agreement or disagreement
Physical TP	Component of physical that affect Sensory, cognitive, and affective experiences	(Bustamante et al., 2016)	11-point Likert scale (0: disagree completely, 10: agree completely)

	Component of physical that affect Behavior experience	(Hoe et al., 2018)	5-points Likert scale (1: disagree completely, 5: strongly agree)
Human TP	Component of humans that affects Sensory, cognitive, affective, behavior, and social experiences	(Bustamante et al., 2016)	11-point Likert scale (0: disagree completely, 10: agree completely)
CX dimensions	Sensory, cognitive, affective, behavior, and social experiences	Schmitt (1999)- (Bustamante et al., 2016)- (Bleier et al., 2018)	Likert scale (from disagreeing completely, to agree completely)

Table.1 summary of study variables and their measurement scale

4. ANALYSIS AND FINDINGS

4.1 Results of Qualitative Interviews

Results of the interview shows that customers agreed about the three types of TPs that they interact with the different brand, which include digital (e.g., web apps and mobile apps) that they are used in search product and purchase, physical (stores and products) that they visit and interact with physically, and human interactions (employees and other customers) either in-store or through social media (e.g., Facebook), and that their purchasing experience contains various types that match the CX dimensions of sensory that affect their senses, cognitive that affect they teach about brand and products, affective that affect the emotions, behavior that teach them about how to use products, and social that affect their connection with brands. Each dimension of CX represents a part of the overall CX. Experts show that digital TP design (colors, image quality, fonts, page design, etc.) can affect customers' behavioral sensory experiences by feeling comfortable and their emotional experiences by feeling enjoyable. Furthermore, the information displayed about products (specifications, versions, various types, price, warranty, videos, tutorials, and manuals) influences customers' cognitive and behavioral exercises. Digital dialogues like chatbots' replay algorithms can answer some of their questions quickly and affect their social experience with the brand. Physical TP design regarding store and products affects sensory and emotional experiences, and the quality of information about brand and products impacts customers' cognitive and behavioral experiences, with no social impact. In Human TP, sharing sensory experiences affects customer senses, while employee support and welcoming affect their emotions. The quality and quantity of information received to improve the cognitive and behavioral experiences of customers, and interaction with brand employees has a significant impact on the social experience of customers.

4.2 Reliability and Validity

In Table 2, Cronbach's alpha was used to measure the consistency of model variables. It varies from 0 to 1, and a value of 0.7 or higher indicates good reliability (Malhotra, 2010). The first measure of validity is the measure of sampling adequacy (MSA), which is derived from the Kaiser-Meyer-Olkin (KMO). High MSA values (close to 1.0) generally indicate that factor analysis may be useful with your data, values greater than 0.6 are adequate, and values greater than 0.8 indicate the sampling is more adequate (Malhotra, 2010). The second validity measure uses corrected total correlation (CTC), and the values vary between 0 and 1, and a value of less than 0.3 indicates that the corresponding item does not correlate very well with the scale overall and, thus, it may be dropped (Everitt, 2002; Field, 2005). All results were within the accepted range, which made the survey a reliable and valid instrument for the purposes of this study.

4.3 Demographic Data Analysis

Demographic data shows gender balance between participants (55% males and 45% females), with 46% of the respondents aged between 31 and 40 years, highly educated (67% university degree, 31% master's and doctoral degrees), and 97% of participants using the Internet for purchasing.

Variable		Reliability (Cronbach's Alpha)*	Validity	
			Corrected Item-Total Correlation**	Measurement of Sample Adequacy***
Touchpoints	Digital	0.936	0.603	0.948
	Physical	0.935	0.648	0.855
	Human	0.933	0.713	0.941
Customer Experience	Sensory	0.934	0.66	0.948
	Cognitive	0.934	0.669	0.944
	Affective	0.933	0.706	0.965
	Behavior	0.934	0.682	0.934
	Social	0.933	0.701	0.875
Overall Customer Experience		0.933	0.719	0.949
Overall		0.938	0.681	0.933

* values >0.7 are reliable and consistent, and the higher the better

*** values > 0.60 are adequate, and the higher the better

Table 2: Reliability & Validity of Study Variables

4.4 Study Findings & Hypotheses Testing

The data collected is analyzed with IBM® SPSS® Statistics Version 23 using bivariate correlation and linear regression analysis. The correlation coefficients are used to measure how strong a relationship is between two variables. The correlation matrix of internal consistency between different TPs and CX dimensions variables, where all values are positive and over 0.3, reflects a highly positive and significant correlation between variables. Table 3 shows specific correlations between each TP component and its related CX dimension, to study the effectiveness of each component, and all relations are positive significant correlations, with digital TP components always in the low range and human TP always in the high range.

Customer Experience	Components of touchpoints that influence CX		
	Digital	Physical	Human
Sensory	.315**	.521**	.638**
Cognitive	.470**	.624**	.676**
Affective	.455**	.367**	.598**
Behavior	.470**	.694**	.684**
Social	.378**		.656**

** significant at 0.01 Probability level

Table 3: *Pearson's correlation between CX measurements and TP components*

Table 4 represent the regression analysis between TPs (digital, physical and human) as independents, each dimension of CX (sensory, cognitive, affective, behavioral, and social) and overall CX as dependents, and illustrate results as follow: Sensory CX, produced $R^2 = 0.459$, $F = 116.289$, significant at $p < 0.001$, mean that TPs are successful in predicting 45.9% of the variance in the sensory CX, with Beta (β) for digital TP $\beta_1 = 0.226$, physical TP $\beta_2 = 0.257$, and human TP $\beta_3 = 0.345$. Cognitive CX, produced $R^2 = 0.586$, $F = 194.626$, significant at $p < 0.001$, mean that TPs are successful in predicting 58.6% of the variance in the cognitive CX, with Beta (β), for digital TP $\beta_1 = 0.196$, physical TP $\beta_2 = 0.363$, and human TP $\beta_3 = 0.369$. Affective CX, produced $R^2 = 0.528$, $F = 153.41$, significant at $p < 0.001$, mean that TPs are successful in predicting 52.8% of the variance in the affective CX, with Beta (β), for digital TP $\beta_1 = 0.220$, physical TP $\beta_2 = 0.245$, and human TP $\beta_3 = 0.415$. Behavior CX, produced $R^2 = 0.598$, $F = 204.171$, significant at $p < 0.001$. TPs are successful in predicting 59.8% of the variance in the behavior CX, with Beta (β), for digital TP $\beta_1 = 0.195$, physical TP $\beta_2 = 0.375$, and human TP $\beta_3 = 0.366$. Social CX, produced $R^2 = 0.553$, $F = 169.882$, significant at $p < 0.001$, mean that digital and human TPs are successful in predicting 55.3% of the variance in social CX, with Beta (β), for digital TP $\beta_1 = 0.332$, and human TP $\beta_3 = 0.439$.

Model Summary of Touchpoints and Customer Experiences R2							
Touchpoints Independents	Customer Dependent	Experience	R	R2	Adjusted R2	Std. Error of the Estimate	
Digital Physical Human TP	TP, TP,	Sensory	.677	0.459	0.455	0.40443	
		Cognitive	.766	0.586	0.583	0.36711	
		Affective	.726	0.528	0.524	0.3658	
		Behavior	.773	0.598	0.595	0.36756	
		Social	.744	0.553	0.55	0.42127	
		Overall CX	.526	0.277	0.271	0.44031	
ANOVA of Touchpoints and Customer Experiences							
Touchpoints Independents	CX Dependent	Source of variation	Sum Squares	df	Mean Square	F	Si g.
Digital Physical Human TP	Sensory	Regression	57.063	3	19.021	116.289***	.000
		Residual	67.389	412	0.164		
		Total	124.452	415			
	Cognitive	Regression	78.687	3	26.229	194.626***	.000
		Residual	55.524	412	0.135		
		Total	134.211	415			

	Affective	Regression	61.582	3	20.527	153.41***	.000
		Residual	55.129	412	0.134		
		Total	116.711	415			
	Behavior	Regression	82.751	3	27.584	204.171***	.000
		Residual	55.661	412	0.135		
		Total	138.412	415			
	Social	Regression	90.445	3	30.148	169.882***	.000
		Residual	73.117	412	0.177		
		Total	163.562	415			
	Overall CX	Regression	30.564	3	10.188	52.549***	.000
		Residual	79.876	412	0.194		
		Total	110.44	415			
Coefficients of Touchpoints and Customer Experiences							
Customer Experience (Dependent)	Touchpoints (Independent)	Unstandardized Coefficients	Standard Error	Standardized Coefficients	t	Sig.	
		B		Beta (β)			
Sensory	(Constant)	0.742	0.179		4.158***	0.000	
	Digital TP	0.254	0.047	0.226	5.385***	0.000	
	Physical TP	0.251	0.044	0.257	5.692***	0.000	
	Human TP	0.341	0.046	0.345	7.385***	0.000	
Cognitive	(Constant)	0.049	0.162		0.303	0.762	
	Digital TP	0.229	0.043	0.196	5.349***	0.000	
	Physical TP	0.368	0.044	0.363	9.195***	0.000	
	Human TP	0.379	0.042	0.369	9.04***	0.000	
Affective	(Constant)	0.578	0.161		3.583***	0.000	
	Digital TP	0.24	0.043	0.220	5.628***	0.000	
	Physical TP	0.231	0.044	0.245	5.801***	0.000	
	Human TP	0.398	0.042	0.415	9.519***	0.000	

Behavior	(Constant)	-0.032	0.162		-0.196	0.845
	Digital TP	0.231	0.043	0.195	5.400***	0.000
	Physical TP	0.386	0.04	0.375	9.639***	0.000
	Human TP	0.382	0.042	0.366	9.103***	0.000
Social	(Constant)	-0.281	0.186		-1.51	0.132
	Digital TP	0.428	0.049	0.332	8.721***	0.000
	Human TP	0.498	0.048	0.439	10.345** *	0.000
Overall Customer Experience (CX)	(Constant)	1.61	0.194		8.283***	0.000
	Digital TP	0.218	0.051	0.205	4.238***	0.000
	Physical TP	0.199	0.048	0.217	4.156***	0.000
	Human TP	0.211	0.05	0.226	4.186***	0.000

***significant at 0.001 level of probability

Table 4: Regression analysis of each CX dimension and overall CX (Dependent), and TPs (Independents)

Regression analysis for TPs (independent) and overall CX by asking customers about their overall CX (dependent) produced $R^2 = 0.277$, $F = 52.549$, significant at $p < 0.001$, that mean TPs are predicting 27.7% of the variance in the overall CX, with Beta (β) for digital TP $\beta_1 = 0.205$, physical TP $\beta_2 = 0.217$, and human TP $\beta_3 = 0.226$.

Table 5 Represents a summary of fourteen hypotheses testing, significance and positive impact direction. Figure 2 represents the path analysis for the overall model, which shows all significant and insignificant relations and correlations between all tested variables.

Hypotheses	Result
H1a: Digital TP significantly& positively Impact sensory CX.	+ Significant
H1b: Digital TP significantly& positively Impact cognitive CX	+ Significant
H1c: Digital TP significantly& positively Impact affective CX	+ Significant
H1d: Digital TP significantly& positively Impact behavior CX	+ Significant
H1e: Digital TP significantly& positively Impact social CX	+ Significant

H2a: Physical TP significantly& positively Impact sensory CX	+ Significant
H2b: Physical TP significantly& positively Impact cognitive CX	+ Significant
H2c: Physical TP significantly& positively Impact affective CX	+ Significant
H2d: Physical TP significantly& positively Impact behavior CX	+ Significant
H3a: Human TP significantly& positively Impact sensory CX	+ Significant
H3b: Human TP significantly& positively Impact cognitive CX	+ Significant
H3c: Human TP significantly& positively Impact affective CX	+ Significant
H3d: Human TP significantly& positively Impact behavior CX	+ Significant
H3e: Human TP significantly& positively Impact social CX	+ Significant

Table 5: Represents a summary of hypotheses testing

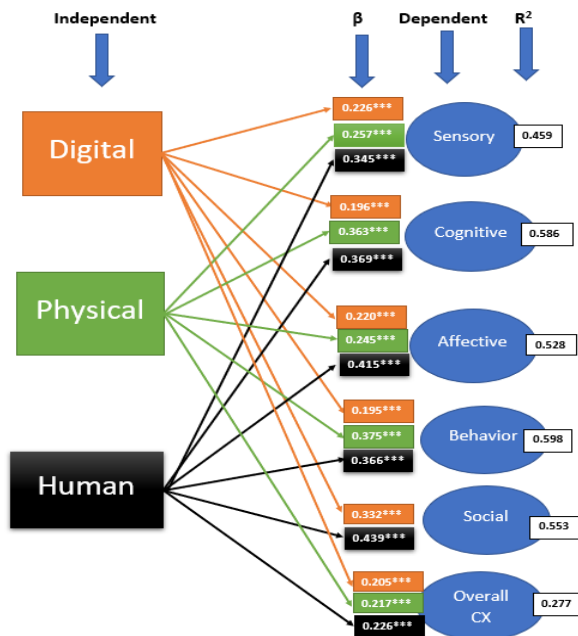


Figure 2: Path Analysis of Customer Experiences (Dependents) and Touchpoints (Independents)

5. DISCUSSIONS AND CONCLUSION

We are in an era of digitalization that has created interaction with digital channels that customers interact with, besides regular interaction with other offline channels like stores or products.

Digitalization supports brands to develop new tools to interact with customers, which supports the creation of a new TP, which is a digital TP, beside the ordinary TPs (physical and human) as follows: Digital TP that digitalization developed, and includes digital tools that brand create to interact digitally with customers, it includes web and mobile applications, emails, SMS, or chatbots; Physical

TP, include stores that customer visit and interact with all their environment, besides the products with its features; Human TP, include employees or other customers, that customer interacts with either face to face in-store or through telephone or through social media tools that digital technology creates.

Furthermore, CX has mainly five dimensions: Sensory CX, through targeting customer sense; Cognitive CX, that target customer appeals to think; Affective CX, through targeting customer's emotions and feelings using; Behaviors CX by targeting customer physical experiences; Social CX by targeting customer needs to relate to others mainly employees and other customers to receive feedbacks and advises.

Each TP contains components that affect each dimension of CX, and the degree of the effect depends on the TP content for these components. Overall, CX represents the total sum of all these five experiences in the mind of the customer. Results indicate that mainly TP information affects cognitive and behavior experiences, while design affects sensory and affective experiences, and interaction creates the social experience.

In line with the results of the qualitative analysis of the study, the quantitative investigation confirmed that TPs (digital, physical, and human) have a significant and positive correlation towards each dimension of CX (sensory, cognitive, affective, behavior, and social).

These results reinforce previous studies that types of TPs mainly consist of these three types: digital, physical, and human (Bolton et al., 2018), that CX consists of these five dimensions: sensory, cognitive, affective, behavior, and social, as per (Schmitt, 1999) and proved by (Brakus et al., 2009) (Gentile et al., 2007) (Lemon & Verhoef et al., 2016). TPs are significantly and positively correlated to CX dimensions, digital TP significantly and positively affects CX (Bleier et al., 2018), physical TP significantly and positively affects CX (Bustamante et al., 2016), and human TP significantly and positively affects CX (Bustamante et al., 2016).

The researcher concluded that each TP (digital, physical, and human) contains components that affect CX dimensions (sensory, cognitive, affective, behavior, and social), and that proficient design of each TP will maximize the impact on CX dimensions that will lead to superior overall CX. Brands in Egypt should depend on TP design and analyze each of its components individually, which affects each dimension of CX.

The quantitative analysis gives tangible measures that TPs positively correlate to CX dimensions, and they lead to describing 45 to 60% of CX dimension variances. The link between qualitative and quantitative analysis for each CX dimension is as follows: **Sensory CX:** as mentioned in interviews will be affected by digital applications design, store design, product design, and sharing customer opinions regarding their sensory experience, and they all have a significant positive effect on creating

a sensory experience. As per survey results, the three types of TPs have a significant positive effect on creating the sensory experience and describe 45.9 % of its variance. Digital and physical TP have a moderate effect on sensory CX with $\beta=0.226$ & 0.257 respectively, which means digital applications design and physical design related to store and products need more improvement. Human TP has a reasonable high effect with $\beta=0.345$ which means a word of mouth and E-word of mouth relating to store and product designs highly affect other customers' sensory feelings. **Cognitive CX:** as mentioned in interviews will be affected by the quality and quantity of information about brands and products, either displayed digitally or in-store or from employees, which affect their cognitive experience. As per survey results, the three types of TPs have a significant positive effect on the cognitive experience and describe 58.6% of its variance. Digital TP has a low effect with $\beta=0.196$ that means available information on the digital application not enough and needs more improvement. Physical and human TP have a reasonable high effect on cognitive CX with $\beta=0.363$ & 0.369 respectively, that customers still tend to get information about brand and products from stores, employees, or other customers. **Affective CX:** as mentioned in the interviews that digital ads design, store design, product design, employees support, and welcoming affect their emotional experience. As per survey results, the three types of TPs have a significant positive effect on the affective experience and describe 52.8% of its variance. Digital and physical TP have a moderate effect on affective CX with $\beta=0.220$ & 0.245 respectively, which means digital applications design and physical design related to store and products need more improvements. Human TP has a high effect with $\beta=0.415$ which means employees welcoming and support have a great effect on customers' emotions. **Behavior CX:** as mentioned in the interviews that digital information about product use, physical interaction with the product, human support on how to use the product, and after-sales affect their behavior experience. As per survey results, the three types of TPs have a significant positive effect on behavior experience and describe 59.8% of its variance. Digital TP has a low effect with $\beta=0.195$ which means available information about product use within digital applications is not enough and needs more development. Physical and human TP have a reasonable high effect on behavior CX with $\beta=0.373$ & 0.366 respectively, that means customers get information about how to use products from stores where can check products physically, or from employee's information in how use and their support to fix products problems. **Social CX:** as mentioned in the interviews that digital automated dialogues like chatbots, human interactions with employees and other customers affect their social experience. As per survey results, digital and human TPs have a significant positive effect on social experience and describe 55.3% of its variance. Digital TP has a reasonably high effect on social CX with $\beta=0.332$, and human TP has a strong high effect on social experience with $\beta = 0.439$. That means digital automated interaction tools like a chatbot can add to their social experience but need more improvement. And interacting with

humans have a high social effect on customers, this human interaction includes interaction with employees and other customers, either face to face in-stores or through any other tools like telephone or social media.

Therefore, survey results show that each TP contains components that influence all CX dimensions. Digital TP needs more improvement to influence CX dimensions, related to design that makes digital shopping more comfortable and enjoyable, quality and quantity of information that influence cognitive and behavior experience, and automatic chatbot for more social interaction. Physical TP has a high effect on behavior experience where customers can check product, store information that affects the cognitive experience, with the need for improvements in the design of store and products to make store shopping more comfortable and enjoyable. Human TP has a high influence on all CX dimensions, which means that brands should invest in employees training to satisfy customer needs, and that human capital plays an important role in brands' success. Furthermore, measuring the relation between TPs and each CX dimension, which describes from 45% to 60% of CX dimensions variances, is more accurate than measuring it with overall CX that describes 27% of its variance. Thus, measuring CX through its dimensions gives more accurate results when evaluation TPs performance.

6. CONTRIBUTIONS AND IMPLICATIONS

CONTRIBUTION: Digitalization developed new ways of interaction between brands and customers that create digital TP. The three types of TPs (digital, physical, and human) positively correlate with each CX dimension (sensory, cognitive, affective, behavior, and social). The results affirm that the three types of TPs are the main determinants of CX that will impact the overall CX. That means brands should give more importance to each TP by ensuring TP design contains components that affect each CX dimension in a proper way to get a high effect on each CX dimension that will impact overall CX and brand performance. Results show that digital TP needs more improvement in application design to affect sensory and emotional experiences and information that affects cognitive and behavior experiences; physical TP needs improvement in design to affect sensory and emotional experiences; human TP shows a high result in affecting all CX dimensions, which means brands should give more importance to human capital. Also, brands should evaluate TP performance by measuring how it impacts each CX dimension.

Implications: Covering all types of TPs (online and offline) and their impact on all different levels of CX, this backs up researchers' calls for more research on omnichannel strategy, how to implement it, and how it affects customer experience and brand performance. Furthermore, the results concerning the relationship between TPs and CX suggest that brands should be aware of the effects of TPs premium management on CX. Brands should ensure proper designing of each TP to include all

components that professionally affect CX. TP should be proficiently designed that affect customer senses and emotions; quality and quantity of information about the brand and products that affect cognitive and behavior experience; and social channels that make customers interact with the brand employees and other customers that affect the social experience. Also, brands should manage TPs in a proper way that achieves integration between them. The better way of managing TPs is to settle on an omnichannel strategy during the customer journey that integrates all TPs and related channels so that customers can transfer between them without feeling lost, which creates a seamless CX. So, brands take guides from the study: that it is the experience, not information, that drives consumer behavior; brands need a digital experience with a human touch; CX will be the real differentiator of brands ; technology is becoming like oxygen and brands only appreciate it when they do not have it.

7. LIMITATIONS AND FUTURE RESEARCH

Limitation - The data was at a single point in time, however, the three types of TPs change rapidly; the results are limited to this Egyptian framework, and generalisations to other contexts should be tested; surveys were collected from customers who purchased from brands via digital channels, and the results were not specific to a specific brand category.

Direction for Future Research - Digitalization is a very dynamic platform, so the effectiveness of every new development in digital TP must be researched to build an effective omnichannel strategy during the customer journey; The impact of physical TP on social CX, especially after the innovation of robots to communicate and interact with humans; The proposed model could be used to validate CX in other service industries where omnichannel is becoming more prevalent.

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POTENTIAL CONNECTIONS BETWEEN INNOVATION AND BRANDING IN HEALTHCARE – A CASE STUDY

Festa, Giuseppe¹; Feoli, Simone²; Rauhut Kompaniets, Olga³; Rossi, Matteo⁴

¹Department of Economics and Statistics, University of Salerno, Italy

²Italian Society of Computerized and Technological Sciences (SISIT), Rome, Italy

³School of Business, Innovation and Sustainability, Halmstadt University, Sweden

⁴Department of Law Economics Management and Quantitative Methods, University of Sannio, and
Wyższa Szkoła Bankowa w Poznaniu – WSB University, Poland

ABSTRACT

Innovation is the most relevant lever for enterprises to increase the business efficiency and competitiveness; the technological component of innovation, more specifically, has become in recent years ever more focused on digitalization, even in terms of disruption. This trend has been much more evident with the COVID-19 pandemic, which has forced to accelerate on the virtualization of processes/operations and products/services; this effect has interested every sector, but naturally, due to the pandemic emergency, has affected above all the healthcare companies, revealing potential impact even on their brand reputation. This study, based on the investigation of the data from 2010 to 2011 about Johnson & Johnson, one of the most important healthcare companies in the world (if not the most), provides evidence about the existence of a significant correlation between the R&D – Research & Development investments of the company and its brand value. With all the physiological limits of the case study methodology, the outcome of the research has allowed related considerations in this respect, particularly with reference to the disruptive technologies in the field like telemedicine and Medicine 4.0.

Keywords: Brand value; Innovation management; Digital disruption; Healthcare; Telemedicine; Medicine 4.0.

1. INTRODUCTION

The COVID-19 pandemic has generated, in addition to the clinical and social impact, multiple substantial effects on a huge number of companies with different natures, sizes, and markets. From financial management to operations management, from job organization to Corporate Social Responsibility (CSR), and other business areas, there are many aspects of the business management that have been intensively affected by the pandemic contingency.

In this respect, the effects of the COVID-19 crisis on the healthcare sector are enormous, due to the necessity of handling one of the greatest challenges of the world history. The plurality of several elements (the increase in the provision of healthcare services to cure the ill, the effort in the distribution of preventing devices, the determination in the creation of effective vaccines, and so on), each one closely interconnected with all the others, has augmented the social and economic focus on the companies that animate the healthcare sector, attracting attention on some brands rather than others (cf., only for example, the feat of Moderna with respect to other historical pharmaceutical brands).

In this direction, the aim of this study is to analyze the main problematics connected to the evolution of the brand value in the healthcare sector at international level, moving from the examination of the institutional and theoretical context, but with specific focus on the potential connection with the company's innovation investments, investigating the case study about Johnson & Johnson (www.jnj.com). The innovation effort has been studied with peculiar focus on the technological innovation and the subsequent digital disruption, with 'Medicine 4.0' (similarly to the Industry 4.0) that represents the closest future of the field (Wolf and Scholze, 2017; Cappelletti, 2018); more in general, however, the research aims to analyze the potential correlation between investments in innovation (i.e., in Research and Development – R&D more specifically) and the value of the company brand.

The structure of the paper is the following: after the definition of the institutional and theoretical framework, even with reference to several definitions emerging in the context of the Medicine 4.0, the study will focus on the Johnson & Johnson case study. Adopting an analytical narrative approach with an exploratory intent, subsequent results will be discussed, arriving at developing consequent scientific and managerial implications, with explanation of the potential limits and future directions of similar research in the field.

2. BACKGROUND

The COVID-19 pandemic, as abovementioned, has heavily affected the whole planet, forcing to relevant rethinking of many aspects of the civil society (Buccellato et al., 2021). At the time of this study (2022), many economies are still progressively moving into new phases of the pandemic management, above all to recover the full capacity of the business activity, at economic and social level, with substantial effects even on the perception of the brands, due to the general issue of the 'crisis management' (Biancuzzi et al., 2021; Giorgi et al., 2021).

The healthcare sector, in this respect, has been forced to face a tremendous challenge (Cabezas, 2020), with direct influence on extremely overworked personnel, with enormous psychophysical stress, even

beyond the normal rate of tolerance, as well as the reshaping of the methods of providing the healthcare services, due to the precedence for the infection by COVID-19. More in general, the technology has been a lever to arrange new operational management models for the healthcare companies, introducing innovative forms of engagement with stakeholders and users, even to address the issue of 'maintaining contact', above all in the relationship between healthcare companies and patients, but also in the relationship between healthcare companies and their suppliers and service providers, with exponential increase in marketing and digital communication investments, redesigning most of the communication strategies in the international markets (Hoekstra and Leeflang, 2020; Mason et al., 2021).

With specific regard to the healthcare sector, even though naturally the same issues have involved all the other economic sectors, there have been various communication campaigns oriented to involve patients, families, users, citizens, and the whole population. For example, Sobande (2020) affirms that the claim "We're all in this together" can capture in the best way the pandemic transversal dimension; in this situation, it has been possible to record collective emotions with negative perceptions, determined by a cognitive uncertainty on the evolutionary scenario.

Therefore, emotionality has played a major role in the (re)definition of marketing and communication strategies to support the brand value and the brand reputation. In this direction, it seems useful to adopt the 'H2H Brand Management' approach by Philip Kotler (2021): "H2H Brand Management finally uses the Brand-formative Design concept to integrate design and marketing in the formation of brand meaning by designing customer experiences that fit to the context and needs of the customers" (*ibidem*, p. 1).

In fact, the centrality of the customers, both when professionals and consumers, and related specific needs are fundamental in the definition of the marketing strategies (Denegri-Knott, 2006), even in the healthcare sector, although it is inevitably so different from other sectors. In this respect, one of the greatest effects of the COVID-19 pandemic is represented by the enormous acceleration in the digital transformation processes (Agostino et al., 2021) and with specific regard to the healthcare sector, there has been a tremendous shift to technology, even for health consumers, adopting innovative solutions for population surveillance, cases monitoring, infections identification, contact tracing, and even with respect to collection, management, and dissemination of medical information on social platforms to support institutional communication (Al-Dmour et al., 2020; Budd et al., 2020; Mulrennan and Colt, 2020).

At the same time, it is to highlight that this shift has allowed more progress even for more sophisticated technologies in the healthcare sectors, just because there is a major availability of healthcare data; that is why, for example, there has been a huge development in very last years about

Artificial Intelligence (AI) in the healthcare sector (Asan et al., 2020; Gille et al., 2020; Rubinger et al., 2022). Inevitably, the progressive use of disruptive solutions with an Information and Communications Technology (ICT) nature, communicating the evolution of the single company with respect to another, is in support even of the growth of the brand value, and even with specific reference to the healthcare sector (Westbrook et al., 2009).

Regarding the above-described situation and considering the increasing / better use of technological innovation in the healthcare sector, especially with reference to virtual solutions, it seems useful to provide peculiar attention to the concept of 'telemedicine'. More specifically, it has been tried to outline the major healthcare services connected to telemedicine, which has emerged in recent years, and dramatically in the COVID-19 pandemic, as the future technological vision of the global healthcare.

Narrower than 'telehealth' (that refers to any kind of utility that could be virtually provided for people, and not necessarily only for ill people), and even narrower than 'tele-healthcare' (that refers to any kind of utility that could be virtually provided for ill people, current and/or future, considering altogether clinical and non-clinical services), 'telemedicine' is defined by the World Health Organization [WHO] as follows: "... "the provision of healthcare services at a distance with communication conducted between healthcare providers seeking clinical guidance and support from other healthcare providers (provider-to-provider telemedicine); or conducted between remote healthcare users seeking health services and healthcare providers (client-to-provider telemedicine)" (WHO, 2019). A primordial definition of telemedicine had already been expressed in the previous decades (Bashshur et al., 2000), but without explicit reference to ICTs (those visionary concepts were mainly focusing on technologically advanced processes relating to healthcare services, especially in the American context, and more specifically with reference to the seminal applications in the aerospace field with some research projects of the NASA – National Aeronautics and Space Administration).

Mostly starting from the last decade of the XX century, and more particularly with the diffusion of the Web, but also more in general with the constantly increasing technological development in the healthcare sector, telemedicine has achieved relevant progress; however, it is to admit that the COVID-19 pandemic has forced people from all over the planet to sharply accelerate their use of telehealth and then, telemedicine more specifically. In a recent study (Yulaikah and Artanti, 2022), it has been highlighted that, despite there is still considerable fear / concern of end-users about the application of new technologies in the medical field, the need to access telehealth (and telemedicine when necessary) has recorded a gradual increase, considering that these new solutions are nowadays perceived more as opportunities and no longer only as risks (mostly due to scarce knowledge).

Adopting a process approach for the analysis of the fundamental utilities in telemedicine, the first service to consider, being most probably the initial step of the more global telemedicine ecosystem, is the 'tele-visit'. It substantially consists in the digital interaction between the doctor and the patient (Bailo et al., 2022), when physically located in different places.

Afterwards, it could be necessary that the single doctor could interact with other peers for a complete diagnosis, during or after the tele-visit; if this multiple analysis is virtually implemented, there occurs a 'tele-consulting', which then happens when two or more doctors interact in a digital environment, even using different devices (laptops, tablets, smartphones, and so on). In this situation, doctors who interface discuss jointly with respect to a specific clinical case or a specific surgical procedure, while the presence of the patient is not strictly necessary, even though she/he may be involved with a different degree of interaction.

After the tele-visit, or maybe to support it, a specific diagnostic exam could be necessary; although there exists the possibility of a 'tele-exam', for example an electrocardiogram via phone or other ICT-based platforms, the most adopted 'virtual' step for the tele-exam is still nowadays only the virtual medical report, i.e., the possibility of having the medical report available online (for the patient and for the doctor). In the progress of the medical process, there may be the need to provide other specific medical services and, in this respect, 'tele-care' refers to the global set of digital solutions for implementing the medical act in conditions of distance between the patient and the overall healthcare staff (Akhlaghi and Asadi, 2002; Oudshoorn, 2012); naturally, tele-care could mean medical services with or without surgery interventions, with the former case that most probably represents the most advanced progress of tele-medicine.

The further services (caring in general until the end of the clinical process, or other above-described clinical services if necessary) represent the remaining set of utilities that realize the global ecosystem of the telemedicine, which, when using disrupting technologies, like Artificial Intelligence (AI), Blockchain, Internet-Of-Things (IOT), and others, may be intended as 'Medicine 4.0'. The impact that the digital transformation has been having on the global healthcare system (both public and private) is exponentially increased in the pandemic period and even in the post-pandemic phase, at least if considering the initial lockdowns, developing ever deeper patient-centered approach. This evolution requires on the one hand high degree of personalization of healthcare providers towards healthcare users, both professional or end, and on the other hand a high level of trust of the healthcare users towards the healthcare providers, with both directions representing two of the most important challenges in the near future (if not the most).

3. METHODS

The main aim of this study is to investigate if medical innovation in the healthcare sector, which as abovementioned is increasingly digital, above all after the COVID-19 pandemic, may have impact on the brand value on the healthcare company. In this respect, a case study methodology has been adopted for a fundamental reason: this is an initial study in this direction, and analyzing the situation of a single company, prevalingly with an exploratory intent, may support in better engineering further research in the field.

In this direction, the case study of Johnson & Johnson has been selected because it can be assumed as an extreme case (Eisenhardt, 1989; Yin, 1994), considering the following reasoning. The “Best Global Brands 2021” survey by Interbrand (www.interbrand.com) was adopted as starting point; in fact, this report, annually provided, is one of the most authoritative sources in the field of the analysis and classification of the value brand at international level (Chu and Keh, 2006), and the 2021 edition has been adopted for the analysis because the 2022 edition, at the moment of the implementation of the current study, was not yet available; within the “Best Global Brands 2021”, the 100 brands that animate the ranking are divided in 15 different categories (which become 16 considering the general category “All”); Johnson & Johnson, classified at the 87th position with a brand value of 5,937 million USD, is the only brand in the ranking that is specifically related to the health sector, and that is why we have considered it as an extreme case (more specifically, in the Interbrand classification it belongs to the FMCG – Fast Moving Consumer Goods category, together with Pampers, L’Oréal, Gillette, Nestlé, Danone, Colgate, Lego, and Kellogg’s).

The 2021 report, in its overview, highlighted that in 2021, and earlier in 2020, due to the COVID-19 pandemic, the sector that had recorded the most growth as concerns the brand value is the technological one; naturally, this trend was existing even in previous years, but the pandemic has amplified this tendency exponentially. A peculiar element of interest that has emerged from the 2021 survey is represented by the growth, in term of value, registered by the totality of the investigated brands (the best 100 in the world), with a significant +15% compared to 2020, arriving to a level that was never recorded in the previous editions of the report, revealing how much the brand value is important in current economies, most probably even more after the COVID-19 pandemic, in which industrial and final customers are more seeking for trust.

In analyzing the Johnson & Johnson case study, the correlation between investments in Research & Development (R&D), considered as the most suitable proxy variable for measuring the potential propension of the company to innovation, ever more digital, and the performance relating to the brand value management has been investigated. Then, at the end, even considering the exploratory intention of the study, the fundamental research question is the following.

RQ1. “Does a positive correlation exist between R&D investments and brand value in the healthcare sector?”

4. THE CASE STUDY

Born in the US context in the distant 1886, dealing with wellness and healthcare services since its foundation, Johnson & Johnson is a multinational with more than 140,000 employees, revenues for 82.6 billion USD, assets for 174.9 billion USD, and profits for 14.7 billion USD (2021 data from Forbes.Com > Companies > Johnson & Johnson). It constitutes the “... largest and most broadly based healthcare products company in the world” (2021 Johnson & Johnson Investor Facts Sheet).

The company business model is essentially divided into three main areas of interest.

- *Pharmaceutical*: research, development, and marketing of ethical drugs with chemical synthesis and biotechnology origin.
- *Medical Devices & Diagnostics*: development and marketing of medical, surgical, and diagnostic aids (surgical instruments, sterilization equipment, sutures, components for orthopedic surgery, and many others).
- *Consumer*: healthcare, cosmetics, children's specialties, hygiene products, and first aids.

With specific regard to the Interbrand ranking, Johnson & Johnson, as abovementioned, ranks 87 of the “Best Global Brands 2021”, confirming a situation of tendential growth compared to the previous years (cf. Figure 1). The brand value is estimated at 5,937 million USD, registering a significant +3% compared to 2020 (with an estimated value of 5,764 million USD).

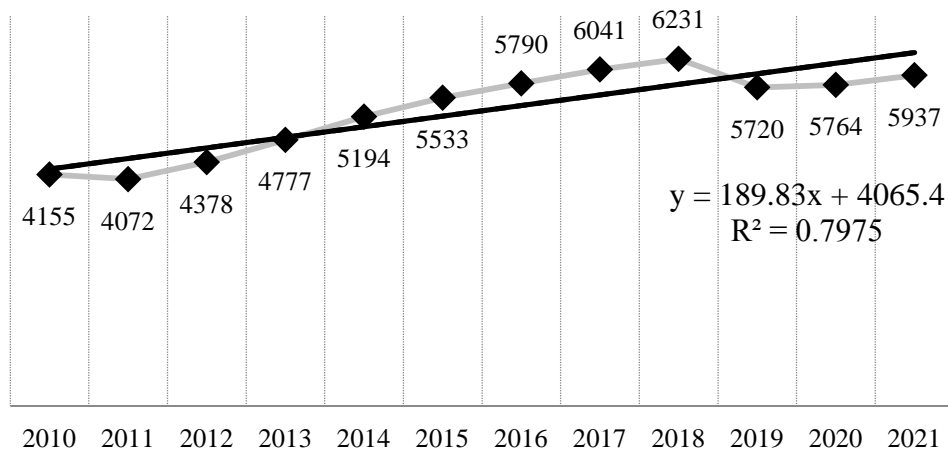


Figure 1. Temporal evolution (2010-2021) of the brand value for Johnson & Johnson (million USD). Source: authors' calculation from “Best Global Brands 2021” (Interbrand).

Till 2018, in the interval under analysis, the progress of the curve has recorded positive changes year on year, with only two declines occurring in 2011 and, more significantly, in 2019. The trend is positive and reliable, showing a R^2 equal to 80% (0,7975).

Although 2020 and 2021 were the years characterized by the COVID-19 pandemic, Johnson and Johnson has been able to register positive increases in the value of the brand, with a significant growth rate, reaching in 2021 an overall value close to the pre-pandemic situation (the highest value was recorded in 2018, when it was equal to 6,231 million USD). After depicting the major data concerning the analysis of the brand value of the company, the investments in R&D, considered as abovementioned as a proxy variable for the overall innovation of the company, have been investigated.

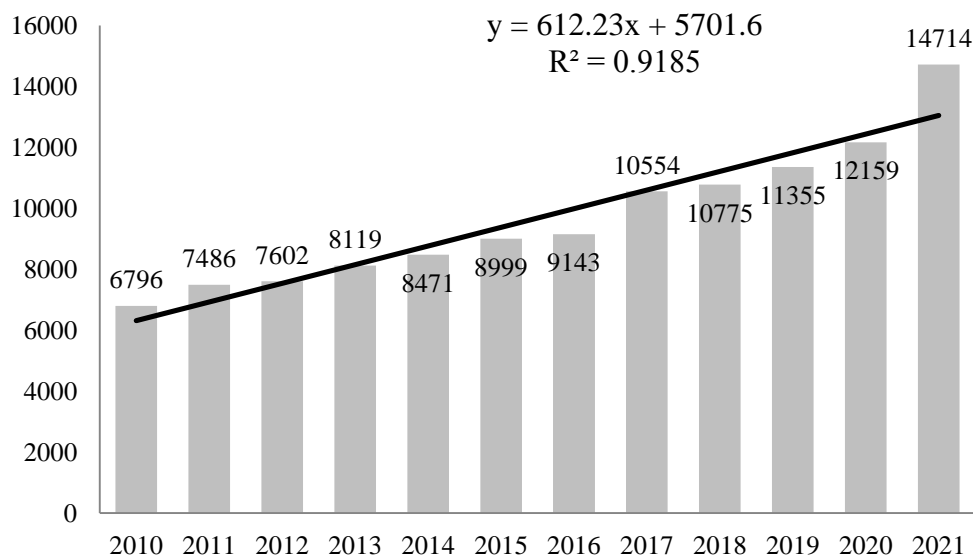


Figure 2. Temporal evolution (2010-2021) of the R&D expenditure for Johnson & Johnson. Source: authors' calculation from Statista.Com.

In Figure 2 it can be observed that the progress of the investments in R&D, in the interval under analysis, is always increasing. The trend is positive and reliable, showing a R^2 equal to 92% (0,9185), with a significant increase in 2021 (most probably, as decided in 2020 due to the COVID-19 emergency), demonstrating that for Johnson & Johnson, notwithstanding the pandemic contingency still underway, a continuous investment in R&D represents not only a considerable increase/improvement for the production (Ringel and Choy, 2017), but also a strategic element of competitive advantage (Ballester et al., 2003).

Naturally, it is to remember that in the COVID-19 pandemic emergency the international scientific community focused all its energies on the unanimous desire to arrive at synthesizing vaccines that were able to fight this Coronavirus. Johnson & Johnson turned out to be one of the pharmaceutical companies that invested most in this research effort, arriving to the formulation of the "Janssen Ad26.COV2.S", known as "Johnson & Johnson Vaccine". However, it is to highlight that, as

abovementioned, considering the evidence from Figure 2, Johnson & Johnson has always invested in innovation as a fundamental element of its competitiveness.

More in general, regarding the new digital frontiers, connected and not to the COVID-19 issue, there are significant implications relating to telemedicine; in fact, Marquez (2021) found that, according to the data of the “US Centers for Disease Control and Prevention” (www.cdc.gov), about 95% of the centers have offered several telemedicine services during the pandemic emergency, compared to only 43% in 2019. In this respect, the specific areas of interest of Johnson & Johnson are related to the digitization of the medical and/or surgical experience, using specific platforms accessible via different devices, to structure and optimize the relationship with the user/patient, both for prevention, diagnosis, and treatment (at clinical level), and for the global healthcare service in general (Nilsen et al., 2006; Buchmueller, 2009).

Finally, the potential correlation between the R&D investments (as independent variable) and the brand value (as dependent variable) has been investigated, to explore for a potential positive relationship (cf. Table 1). The expectation, as abovementioned, is that increasing levels of investment in R&D, especially when regarding technological innovation, digital disruption, telemedicine, and Medicine 4.0, could generate a major brand value, and consequently greater/better competitive advantage with respect to other competitors.

Years	R&D Investment	Brand Value
2010	6,796	4,155
2011	7,486	4,072
2012	7,602	4,378
2013	8,119	4,777
2014	8,471	5,194
2015	8,999	5,533
2016	9,143	5,790
2017	10,554	6,041
2018	10,775	6,231
2019	11,355	5,720
2020	12,159	5,764
2021	14,714	5,937
Q = 0,780848077		R2 = 0,609723719

Table 1. Correlation (2010-2021) of R&D expenditure and brand value for Johnson & Johnson (million USD).

Source: authors' calculation.

From the inferences in Table 2 there is evidence that for Johnson & Johnson, in the 2010-2021 period, a positive correlation between R&D investments and brand value exist, thus providing evidence for responding to RQ1 (“Does a positive correlation exist between R&D investments and brand value in the healthcare sector?” – “Yes”). The relationship, from a statistical point of view, is strong (more than 78%) and reliable (about 61%), even though this reliability is minor than the abovementioned ones emerging from the temporal regression for brand value and R&D investments separately.

5. DISCUSSION

In the past, continuous change, due to strategic, organizational, productive, and commercial requirements that are increasingly dynamic, both for the external and the internal business context, played a relevant role in the governance and the management of the enterprises (Schweizer, 2005), while nowadays it seems that the managerial change needs not only to be continuous, but also disruptive. This evolution has also implications as concerns the brand management; in fact, although the brand building is usually intended as the constant accumulation of the brand reputation in a wider sense, normally along many years, it is evident that the technological evolution, most of all when digital disruption, has generated huge and fast reputation value for many entrepreneurial examples (starting from the so-called GAFAM, i.e., Google, Apple, Facebook, Amazon, and Microsoft, but also Tesla, for example, in another field).

However, in the past, in the present, and in the future brand represents the key to the competitive advantage of companies (Werther and Chandler, 2005), providing in general the possibility that a specific product/service may be chosen instead of others, and perhaps with higher price (Agres and Dubitsky, 1996), incorporating a premium value. Inevitably, this power can be applied even to the healthcare sector, most of all when the related products/services are ever more evolving from a technological point of view, and even more in the times of the COVID-19 pandemic.

Trust remains the fundamental concept for aligning the digital evolution of the healthcare company with its brand value in favor of the users, fueling ever more on a patient-centered practice approach, which can even be unknown to the direct customers, if it is evident to the professionals involved in the healthcare process. In this respect, the analyzed performances of Johnson & Johnson, in terms of R&D investments and brand value, is relevant, showing a profound interaction within these two forces.

6. IMPLICATIONS

From a theoretical point of view, the evidence of the study supports the assumption about a direct relationship between innovation, most of all when disruptive, and brand value in the healthcare sector, at least for an extreme case like Johnson & Johnson (the “... largest and most broadly based

healthcare products company in the world"). This result may seem probably acquired in every other sector, but in truth it is not so banal when reasoning about healthcare brands; for example, if considering the perspective of the end users in the pharmaceutical market, there is still significant number of patients that prefer branded drugs (old) to related generic drugs (new), although equivalent, being even available to pay for the price difference in the case of reimbursement/coverage on behalf of the potential national health service.

Thus, it seems possible that the impact of the innovation effort of the individual healthcare company on its brand value is due to the perception of the customers about the situation of the global environment, in a sort of comparative evolution. In other words, if other companies in the field are investing in innovation, the brand value of the individual company would be coherently affected (and in truth this is what has happened throughout the world with the various vaccines for the COVID-19 pandemic, with various reputation effects that most probably have regarded not only the brands of the pharmaceutical corporations involved in the field, but also their Country-Of-Origin reputations).

From a practical point of view, the collective attempt at international level to combat the pandemic has generated a common effort towards alternative and/or innovative healthcare services of various kinds to guarantee major/better assistance to patients and users (Tanne et al., 2020). The validity and reliability of these innovative solutions inevitably affects the general level of trust that can be expressed by professional and end users towards healthcare providers and their brands; if they are perceived as engaged in the technological struggle to survive, growth, and develop, their brand value is assumed to coherently evolve, as in the case study under analysis (in other words, as abovementioned, in a constantly evolving sector, like healthcare, evolving seems essential for maintaining and increasing the brand value).

Nonetheless, it is always to remember that for the brand building consistent actions are indispensable, but their communication is vital (it would be highly inefficient, in terms of brand management, to act without communicating), and most probably this is even truer in a very peculiar sector like healthcare. In fact, not only the trust for the brand is different with respect to different product categories and consumer types (Menidjel, 2017), but with specific reference to healthcare, the degree of involvement, for both professional and end users, is inevitably higher, because it concerns people's health, and then the innovative use of online communication (Marmat, 2021) and more specifically of Social Media Networks has gained tremendous relevance, especially in the light of the pandemic contingency (Wong, 2021), and maybe in the future even more with the metaverse (Marzaleh et al., 2022).

7. LIMITS

The main shortage of the study is related to the adopted methodology, i.e., the case study approach,

which does not allow at statistical level to formulate responses that could be acceptable for other companies, even when similar, also because it has been repeatedly emphasized that Johnson & Johnson represents an extreme case. In fact, the essential outcome of the research has consisted in exploring the issue under investigation to gain experience for further studies in the field, although the positive response to the research question, i.e., confirming the existence of a positive correlation between R&D investments and brand value, seems to rely on solid basis.

Another limit concerns the period under analysis, that has considered 2021 as the final year of study (because at the time of the research the 2022 survey of Interbrand was not yet available) and has considered the previous decade (starting from 2010) as the perimeter of investigation. First, enlarging the period of investigation could allow the inferential calculations to provide more reliable results; and second, 2020 and 2021 are the most problematic years of the COVID-19 pandemic (so far, hopefully), and inevitably the values related to these years may provide some bias to the general investigation, in a positive or negative manner.

Finally, the innovation effort, most of all with respect to technological innovation, digital disruption, telemedicine, and Medicine 4.0, has been proxied with the R&D investments of Johnson & Johnson. In this respect, it is evident that this choice is not perfect, most of all because for a healthcare company that is also a pharmaceutical company there is a relevant portion of R&D that is specifically connected to new drugs, although even the pharmaceutical innovation can be considered as technological innovation, and even with regard to Medicine 4.0 if considered “medicine of precision”; however, further improvement about the refinement of the independent variable, maybe even activating a multiple regression, i.e., using more than one variable, seems desirable.

8. CONCLUSION

The technological development that in different sectors and in different dimensions has characterized and is still characterizing the evolution of the business process management represents one of the most relevant guidelines for determining the future business scenarios. Brand building is largely affected by technological progress, most of all because a higher innovation rate in the development of new products and services can reasonably increase the level of competitiveness of the company.

With specific regard to the healthcare sector, whether the company in question be public or private, the tremendous opportunities offered by the digital disruption, telemedicine, and Medicine 4.0, in all their forms, constitute a challenge for the future not only of medicine in a strict sense, but also in the relationship with the patient/user in the broad sense. In this respect, it is fundamental to accurately manage the level of trust that is perceived by professional and end users towards some providers

rather than others, with consequent reference to the necessity/opportunity of the related brand management on behalf of the companies.

The case study that has been analyzed has revealed that Johnson & Johnson has significantly increased its investments in R&D in the 2011-2021 decade, with evident subsequent correlations with its brand value as calculated by the Interbrand "Best Global Brands 2021". Although in 2021 Johnson & Johnson substantially has confirmed its ranking in the global classification, it is to mention that it remains the only healthcare company in the best 100 ranking, with a constant growth of its brand value.

From the specific the point of view of the study, the most relevant evidence concerns the potential correlation of the brand value with the investments in R&D, assumed as proxy variable for the generic innovation of the company. With all the limitations that have been highlighted, the correlation is evident and sufficiently reliable, and represents an initial element, in the perspective of the case study methodology, to continue investigating about the effect that innovation may exert not only on the improvement of the global efficiency and competitiveness of a healthcare company, but also on the increase of the customer loyalty in the relationship with professional and end users, promoting a better perceived trust towards the brand.

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USING SOCIAL MEDIA AND SOCIAL ENTREPRENEUR'S NETWORK TO INCREASE RESOURCES: WHAT'S IT WORTH?

Freitas Santos, J.; Bernardino, Susana; Silva, Pedro

CEOS.PP, SICAP/P.Porto, Porto, Portugal

ABSTRACT

Resources are scarce, but critical for social the social entrepreneur, as the lack of them may undermine the accomplishment of the activities and mission of the social venture. This investigation aims to examine the extent to which the social entrepreneur reliance on its personal network and social media affects its capacity to attract resources for the social organization. For this purpose, a structural equation model was estimated based on data collected from a survey administered to a sample of Portuguese social organizations. The results show that social entrepreneur's network linkages have a direct and an indirect effect on resources. Directly, the governance of the social entrepreneur's linkages with new and actual stakeholders seems to attract more resources for the social organization. The indirect impact on resources occurs via social media usage: first, by managing and establishing relationships with new stakeholders; second, by managing the personal linkages with the current network of stakeholders.

Keywords: social organizations, social entrepreneur, network, social media, resources.

INTRODUCTION

The use of social media by social organizations is increasing as more social media platforms are becoming available (Smith and Smith, 2021). The term social media is defined in the present paper as any online service through which users can create and share a variety of content. They encompass user-generated services (such as blogs), social networking sites, video sharing sites and online communities, whereby social organizations produce, design, publish, or edit content (Krishnamurthy and Dou, 2008). These different kinds of social media sites allow social organizations to find new stakeholders and maintain the current base of stakeholders' network via the usage of social media. Further, social media enables social entrepreneurs to interact with stakeholders to provide awareness of the social organization to the whole community about its social mission, capture resources from different sources, and leverage the amount and quality of the resources available. In this context, social media changes the normal approach toward stakeholders by changing how social organizations interact with their network and relate with the community (Bourdieu, 1986).

The challenge of finding resources for the social organization has been so time-consuming for the social entrepreneur that it became a primary focus of the organisation's activities, shaping its capacity for social value creation (Urban, 2010). Also, resource scarcity drives the social entrepreneur to innovate the ways of obtaining resources for the social organization. In the case of social entrepreneurs, there is a distinctive nature of the resource constraints as most social entrepreneurs act in markets characterised by a paucity of resources (Di Domenico et al., 2010).

The scarce studies available on entrepreneur's network and resource acquisition have been made basically through inductive research in the entrepreneurship and social entrepreneurship literature (Martens et al., 2007; Miglietta et al., 2015; Roundy, 2014; Burg et al., 2021; Littlewood and Khan 2018). Further, a few studies in recent years have attempted to investigate the extent to which the social entrepreneur interacts with the stakeholders via social media during the process of capturing different types of resources for the social organisation.

In this study, we examine the linkages between the personal network of the social entrepreneur and the social media usage with the objective to acquire resources. As this topic has received scarce attention in the social entrepreneurship literature, examining the role of social entrepreneur's network and social media on the acquisition of resources will allow us to learn more about how social entrepreneurs manage its personal network linkages via social media in the process of capturing the different type of resources to the social organization.

In the following section the conceptual framework and the hypotheses are developed. Then, the study methodology is presented, followed by the results. The conclusions section ends the paper.

CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

Drawing from the social network theory, resource-based theory and social entrepreneurship literature, the proposed framework (Figure 1) aims to determine whether the social entrepreneur's personal network and the reliance on social media to manage the stakeholders have an impact on the amount of resources acquired by the social organization. The direct and indirect effects of social media usage are measured by two distinct models. In model A, the social media is used by the social entrepreneur to create linkages with new stakeholders. In model B the social media is applied by the social entrepreneur to manage the linkages with the current stakeholders. The reliance on social media is thought to affect directly the capacity of the social organization to mobilize resources, as well as indirectly shaping the degree to which the social entrepreneur's personal network linkages would be able to capture more resources for the social organization.

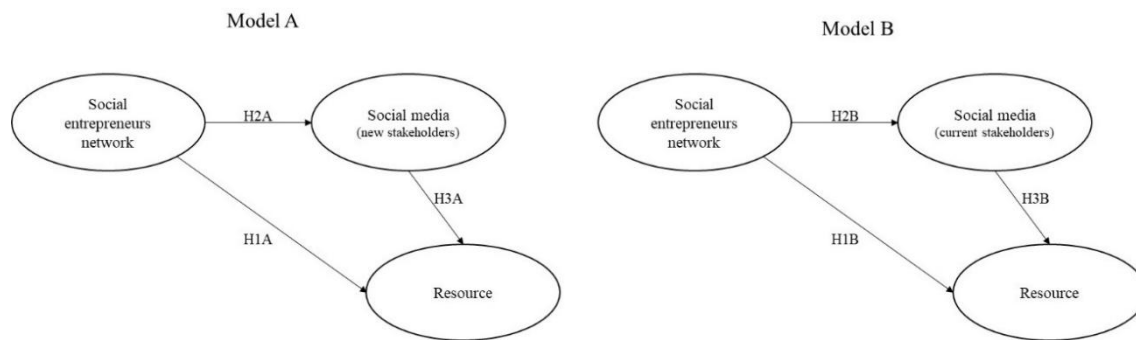


Figure 1. Conceptual framework. (Use AR Figure Caption)

Role of the social entrepreneur's personal network

The concept of networks was derived from social psychology, sociology and inter-organizational theory (Tichy et al., 1979; Granovetter, 1983; 1985) to analyze the nature of exchange that occurs between individuals and the influence of networks on the management of organizations (Dodd et al., 2006).

The systematic literature review performed by Littlewood and Khan (2018) indicates that several benefits have been studied and recognized to networking. As argued by Hoang and Antoncic (2003), the social network where the entrepreneur is embedded exerts a critical role in the entrepreneurial process. The study of networks in entrepreneurship has been developed to understand its impact on the recognition and seize of opportunities (Bauer et al., 2012; Shane and Venkataraman, 2000), the ability to be entrepreneurial (Galunic and Eisenhardt, 1994; Song et al., 2021), as well as the amount of resources acquired (Ge et al., 2009; Zhang et al., 2010; Jiang et al., 2018).

Direct effect of social entrepreneur's network on resources

Social entrepreneur's network is important for resource acquisition and the management of the social organization in order to attain its social mission. During the entrepreneurial process, the social entrepreneur's network acts as a support for initial entrepreneurial activity (raising resources) and to improve the operational efficiency of the business (management of human, physical and financial resources) (Stuart and Sorenson, 2005).

The role of the entrepreneur's network on the process of resource acquisition has been acknowledged by Witt (2004). As stated by the author, "founders can gain access to resources more cheaply by using their network contacts than by using market transactions, and that they can acquire resources from the network that would not be available via market transactions at all". Also, the "opportunity to procure resources (...) arises due to friendship or kinship ties to network partners" that "offer the entrepreneur specific resources at no charge or below the market price simply to do them a favor or to return a favor that they received earlier" (Witt, 2004, p. 394). Also, a review of literature on the role of social networks

in social entrepreneurship concludes that social networks are useful vehicles enabling the social entrepreneurs to achieve access to important resources (Dangmei, 2016).

Thus, we hypothesize:

H1A) The social entrepreneur reliance on its personal network to build relationships with the new stakeholders is positively related to the increase of resources for the social organization

H1B) The social entrepreneur reliance on its personal network to maintain relationships with the current stakeholders is positively related to the increase of resources for the social organization

Indirect effect of social entrepreneur's network on social media

People establish relationships as a result of their daily diverse range of interactions with friends, family, co-workers, volunteers, donors and other stakeholders (Bourdieu, 1986). Therefore, networking is seen as the activity of connecting or linking with others and adding new nodes (persons or organizations) to a given network linked by the relationships established between them (Hoang and Antoncic, 2003; Littlewood and Khan, 2018). In modern societies, online interaction through social media has become a substitute of face-to-face contacts for sharing and exchanging ideas, opinions and knowledge (Finkbeiner, 2013). Indeed, social media is now considered an online public space where existing social ties could be maintained and where is a chance to encounter new acquaintances or friends (Hampton et al., 2011).

Studies of relationships between physical communities and online communities show that computer-mediated interactions have positive effects on communication within the community (Hampton and Wellman, 2003; Kavanaugh et al., 2005). In this manner, social media facilitates the creation of new relationships, in the sense as it provides an alternative way for individuals to connect with others who also share their interests or relational goals (Ellison et al., 2006; Parks and Floyd, 1996).

Therefore, the following hypothesis is postulated:

H2A) The social entrepreneur reliance on its personal network is positively related to social media usage to seek relationships with new stakeholders

H2B) The social entrepreneur reliance on its personal network is positively related to social media usage to maintain the relationships with current stakeholders

Role of social media in the process of resources' acquisition

Social media allows individuals to build their own profile, make lists of friends or contacts and cross information with other people on the Internet (Boyd and Ellison, 2007; Smith and Smith, 2021). Social media usually include communication tools that allow users to capture, store, and exchange information among users and interactive tools that facilitate interactions among users. Using the platforms provided by social media, different social groups can share information with others in the

online setting and form social networks based on transactions, interests, or relationships (Boyd and Ellison, 2007; Cao et al., 2013).

Social media has become an important tool for social organizations to connect with their stakeholders and changed the way in which we create, collaborate, consume, and communicate with other individuals and with organizations. For instance, social media could help social organizations establish conversations with donors or potential volunteers and enable direct contacts with other persons.

Social media enable social organizations to exchange, share, disseminate and search the information quickly, efficiently, and at low costs (Xu and Saxton, 2019; Bhati and McDonnell, 2020). Social media are increasingly being used to access resources such as support fundraising campaigns (Bhati and McDonnell, 2020), recruit volunteers online (Ihm, 2017), and mobilise other types of resources (Zhou and Pan, 2016).

Based on these arguments, the following hypotheses are offered:

H3A) Social media usage by the social entrepreneur to create relationships with new stakeholders is positively related to the increase of resources for the social organization

H3B) Social media usage by the social entrepreneur to maintain relationships with current stakeholders is positively related to the increase of resources for the social organization

METHODOLOGY

This study used a database integrates the organizations that Portuguese tax administration considers of public interest, such as institutions of social solidarity and other types of entities (social, cultural, humanitarian), and for which the authors have collected the contact by consulting the website of the organizations, the social media pages, and the website of the Social Chart (including the institutions that are supervised by the Ministry of Solidarity and Social Security). In the end of this operation a list of 3,252 email contacts from what could be considered social organizations was obtained.

A preliminary version of the questionnaire was developed and administered to ten academics in the field of management and economics. The purpose was to evaluate the content validity of the measures selected. The research instrument was then modified based on the feedback received. Subsequently, the revised questionnaire was pretested and refined for relevance and clarity, and no significant problems were found.

The social organizations were contacted during January and March of 2020. The purification of the database was completed with the removal of 864 email addresses due to absent emails addresses and errors messages. The total number of the sampling frame accounted for 2,388 email contacts.

A formal email describing the objectives and importance of the study was sent to all organizations. After two rounds of persistent emails asking for respondents to return the questionnaires, a total of 337

questionnaires were received although 24 were dropped due to excessive missing data. Thus, we obtained 313 responses, yielding an acceptable response rate of 13.1% (313/2.388).

Multi-item and five-points Likert scales response formats were used to operationalize all variables (1 for “strongly disagree” and 5 for “strongly agree”). The measurement approach for each theoretical construct is described briefly below.

The constructs of both models and the survey scale were adapted for social organizations and refined in the pre testing of the questionnaire. The first scale was adapted for social organizations and refined in the pre testing of the questionnaire from Huang, Lai and Lo (2012), the second and third from Ellison, Steinfield and Lampe (2007), and the fourth from Ge, Hisrich and Dong (2009).

Entrepreneur’s Network (EN) – this construct used four statements for measuring founder’s perceptions of the potential partners that are beneficial for his business, the common values that founder shares with his business partners, the founder and business partner trust and respect between each other, and exchange of information with honesty between founder and business partner.

Social Media & New Stakeholders (SMNS) - this construct used four statements for measuring manager’s perceptions about the importance of social media in acquiring new contacts to enhance the network of the social organization.

Social Media & Current Stakeholders (SMCS) - this construct used four statements for measuring manager’s perceptions about the importance of social media in maintaining long-term contacts to sustain the network of the social organization.

Resources (R) – this construct used four statements for measuring manager’s perceptions about its capacity to get material resources (machines, cars, etc.), human resources (volunteers, collaborators), financial resources, and tax exemptions and financial support from the social organization’s network.

Table 1 presents the sample. The largest number of the 313 respondents who participated in the survey were from social organizations located in the middle of the country (N = 143). The sample contains 91.1% of the organizations that held more than 10 years of existence. The geographical area of intervention of the majority of organizations were local (N = 141). The size of the social organizations measured by number of employees is more than 30 (N = 129); mostly, volunteers and beneficiaries.

Categories		n	%
Localization (Portugal)	North	112	35.8
	Center	143	45.7
	South	50	16.0
	Islands	8	2.6
	Total	313	100.0
Scope	Local	141	45.0
	Regional	92	29.4
	National	62	19.8
	International	18	5.8
	Total	313	100.0
Number of employees	< 5	45	14.4

	Entre 5 e 10	41	13.1
	Entre 11 e 30	98	31.3
	> 30	129	41.2
	Total	313	100.0
Number of volunteers	< 10	186	59.4
	Entre 10 e 20	63	20.1
	Entre 21 e 50	25	8.0
	> 50	39	12.5
	Total	313	100.0
Number of beneficiaries	< 100	76	24.3
	Entre 101 e 200	78	24.9
	Entre 201 e 500	58	18.5
	> 500	101	32.3
	Total	313	100.0
Annual amount	< 50.000	30	9.6
	Entre 50.000 e 100.000	61	19.5
	Entre 100.001 e 500.000	89	28.4
	> 500.000	133	42.5
	Total	313	100.0

Table 1. Example of a table caption (Use AR Table Caption)

RESULTS

The data were statistically analysed through the software SPSS (Version 26) and AMOS (Version 22). Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were used to assess the dimensionality, reliability and validity of the scales.

When analysing raw data, factor loadings that the items do, indeed, measure the intended constructs, as shown in Table 2 (Byrne, 2016). Moreover, the skewness and most kurtosis values fell between $-/+2$ (see Table 2), showing that research items' distributions are normal (Gravetter and Wallnau, 2016). Subsequently, the values indicate that the correlation matrix is factorable, since Barlett's test of Sphericity is $p < 0.001$ and overall KMO is > 0.60 (Watkins, 2018).

Table 2 also reveals the mean and standard deviation of the responses to each item and through the percentage of total explained variance ($> 60\%$) of the items of each construct, it can be verified that the data are of high utility (Hair et al., 2014).

Items	Factor loadings (Model A)	Factor loadings (Model B)	Mean	Standard deviation	Skew	Std. skew error	Kurtosis	Std. kurtosis error	KMO	TEV
SEN1	0.773	0.773	3.60	1.173	-0.554	0.138	-0.412	0.275	0.833	78.61%
SEN2	0.849	0.852	3.81	1.082	-0.848	0.138	0.303	0.275		
SEN3	0.899	0.900	4.12	1.033	-1.223	0.138	1.118	0.275		
SEN4	0.883	0.877	3.76	1.123	-0.794	0.138	0.037	0.275		
SMNS1	0.920	-	3.17	1.268	-0.236	0.138	-0.897	0.275	0.854	85.51%
SMNS2	0.921	-	3.05	1.248	-0.131	0.138	-0.942	0.275		
SMNS3	0.918	-	3.18	1.257	-0.270	0.138	-0.862	0.275		
SMNS4	0.878	-	3.14	1.202	-0.224	0.138	-0.732	0.275		
SMCS1	-	0.843	3.34	1.238	-0.418	0.138	-0.767	0.275	0.801	81.76%

SMCS2	-	0.898	3.07	1.180	-0.231	0.138	-0.764	0.275		
SMCS3	-	0.920	3.04	1.217	-0.058	0.138	-0.805	0.275		
SMCS4	-	0.889	3.38	1.235	-0.498	0.138	-0.663	0.275		
R1	0.780	0.785	3.01	1.117	-0.130	0.138	-0.744	0.275	0.874	61,77%
R2	0.719	0.723	3.18	1.109	-0.217	0.138	-0.747	0.275		
R3	0.849	0.855	2.96	1.024	-0.108	0.138	-0.555	0.275		
R4	0.764	0.761	2.89	1.076	0.007	0.138	-0.563	0.275		
R5	0.788	0.781	3.01	1.083	-0.074	0.138	-0.620	0.275		
R6	0.636	0.627	3.42	1.003	-0.350	0.138	-0.358	0.275		

Note: Kaiser Normalization Varimax rotation method; Kaiser-Meyer-Olkin measure of sampling adequacy (KMO)= 0.878 (Model A), 0.870 (Model B); Bartlett's test sig. < 0.000; Total Explained Variance (TEV): 73.68% (Model A), 72.73% (Model B); Cronbach's alfa: 0.89 (Model A), 0.889 (Model B); All factor loadings are significant at $p < 0.001$.

Table 2. *Items and constructs analysis*

The composite reliability (CR) and Cronbach's alpha values (α) of all constructs clearly exceed 0.7, which indicates that the scale items are internally consistent or reliable (Collier, 2020), as shown in Table 2. Furthermore, the average variance extracted (AVE) of all constructs exceeds 0.5 thus satisfying convergent validity (Collier, 2020; Fornell and Larcker, 1981). The Table 2 also reveals that $AVE > \text{Maximum Shared Variance (MSV)}$; $AVE > \text{Average Squared Shared Variance (ASV)}$; and, AVE of a latent variable higher than the squared correlations between the latent variable and all other variables. Thus, all constructs satisfy discriminant validity (Fornell and Larcker, 1981).

Constructs – Model A	Cronbach's alpha	CR	AVE	MSV	ASV	1	2	3
1 - Social Entrepreneurs Network	0.907	0.911	0.719	0.232	0.159	0.848		
2 - Social media - new stakeholders	0.943	0.944	0.807	0.092	0.089	0.292	0.899	
3 - Resources	0.875	0.877	0.545	0.232	0.162	0.304	0.482	0.739
Constructs - Model B		CR	AVE	MSV	ASV	4	5	6
4 - Social Entrepreneurs Network	0.907	0.911	0.719	0.232	0.155	0.848		
5 - Social media - current stakeholders	0.925	0.925	0.805	0.077	0.077	0.278	0.897	
6 - Resource	0.875	0.877	0.546	0.232	0.154	0.276	0.482	0.739

Note: CR - Composite Reliability; AVE - Average Variance Extracted; MSV - Maximum Shared Variance; ASV - Average Shared Variance; diagonal elements (*italic and bold*) illustrate the square root of average variance extracted (AVE).

Table 3. *Reliability and Discriminant Validity of the Constructs*

Figure 2 represents the modelling results and the values obtained denote that both models are statistically validated according to Collier (2020) and Thakkar (2020). Therefore, for Model A, the results of the indicators are $\chi^2/df = 2,337$; the goodness-of-fit (GFI) = 0.928, the normed fit index (NFI) = 0.945, the incremental fit index (IFI) = 0.968, the Tucker-Lewis index (TLI) = 0.960, the confirmatory fit

index (CFI) = 0.968), and the root means square approximation (RMSA) = 0.065. Regarding Model B, the results of the indicators are $\chi^2/df = 2.663$, GFI = 0.922, NFI = 0.939, IFI = 0.961, TLI = 0.951, CFI = 0.961, and RMSA = 0.073.

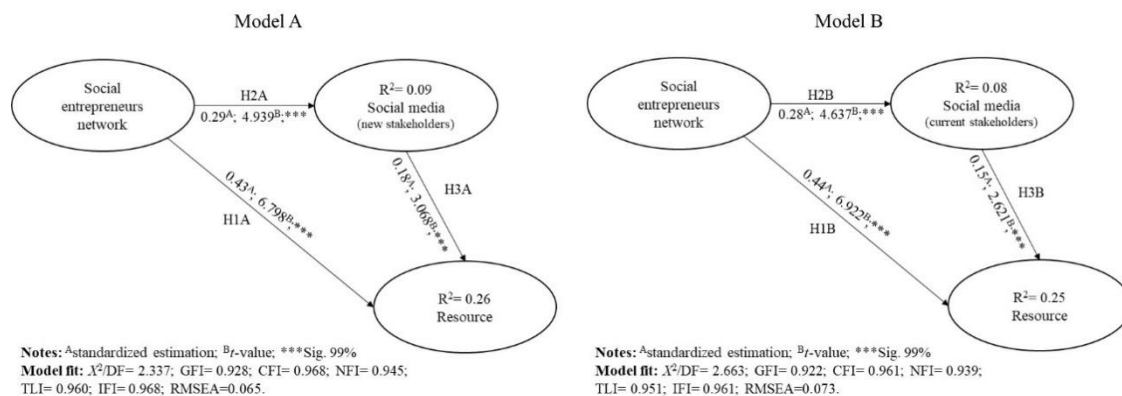


Figure 2. Hypothesized model with composite measures

The hypotheses formulated in the models represent causal paths and can be empirically tested through the significance of the trajectories/paths represented in the structural model (Collier, 2020; Thakkar, 2020).

As hypothesized, the results revealed in Model A, the result supports that social entrepreneurs network have a positive and significant impact on social media (new stakeholders) ($\beta = 0.29$; $p < 0.001$) and resource ($\beta = 0.43$; $p < 0.001$). The social media (new stakeholders) has a positive and significant impact on resource ($\beta = 0.18$; $p < 0.01$), so H1A, H2A, H3A are supported, respectively.

Regarding Model B, the result supports that social entrepreneurs network have a positive and significant impact on social media (current stakeholders) ($\beta = 0.28$; $p < 0.001$) and resource ($\beta = 0.44$; $p < 0.001$). Finally, the social media (current stakeholders) has a positive and significant impact on resource ($\beta = 0.15$; $p < 0.01$), so H1B, H2B, H3B are supported, respectively.

CONCLUSION

Grounded in social network theory, resource-based theory and social entrepreneurship literature the investigation reveals that entrepreneur's network has a direct and positive effect on the social organization capability to access resources. In addition to this direct effect, access to resources is also improved by the entrepreneurs' reliance on social media, which positively contributes to increasing resources and also, most importantly, to building and boosting the social entrepreneur personal network.

Thus, the empirical research carried out indicates that the process of acquiring resources in social organizations is very complex and is influenced by the interaction of different dimensions that are able to reinforce themselves and improve the organization's capability to attract resources.

The results of this study provide a theoretical framework for understanding the role of entrepreneur's network and social media on the acquisition of resources for the social organization. From a practical standpoint, the results provide important implications for social entrepreneurs and organizations.

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COVID-19 AND CLINICAL PATHWAYS MANAGEMENT - A CASE STUDY

Gagliardi, Anna Roberta¹; Festa, Giuseppe²; Pacilli, Luigi³; Grandhi, Balakrishna⁴; Rossi, Matteo⁵

¹Department of Economics, University of Foggia, Foggia, Italy

²Department of Economics and Statistics, University of Salerno, Italy

³Casa Sollievo della Sofferenza Research Hospital, San Giovanni Rotondo, Italy

⁴SP Jain School of Global Management, Dubai, Mumbai, Singapore, Sydney

⁵Department of Law Economics Management and Quantitative Methods, University of Sannio, Italy, and Wyzsza Szkoła Bankowa w Poznaniu - WSB University Poland

ABSTRACT

Many studies have analyzed clinical pathways (CPs) from different perspectives, but to date, very limited research has investigated the impact of the COVID-19 pandemic on their managerial and financial efficiency with respect to non-COVID-19 patients. In this respect, this study, focusing on a dataset including 749 patients from the data warehouse of the “Casa Sollievo della Sofferenza Research Hospital” (Italy) from January 2018 to December 2021, has examined more particularly the CPs, as concerns hospitalization and subsequent organization, for non-COVID-19 patients with respiratory insufficiency in the Intensive Care Unit (ICU), with the aim of highlighting potential changes in the organizational, operational, and financial dynamics. The research has evaluated the length of the hospitalization by comparing the years in the absence (2018-2019) and the presence (2020-2021) of the COVID-19 emergency; secondarily, further analyses concerning the radiological exams (with financial interest) and the healthcare workers (with managerial interest) have been carried out. The main results have indicated an increase of the average length of the hospitalization in the pandemic years (with major influence of 2020, while the average length of the hospitalization in 2021 is minor than 2019), a decrease of the number of radiological exams during the pandemic years, and an increase for the care-staff during the pandemic years. Subsequent implications in terms of organizational change have been discussed.

Keywords: Healthcare; COVID-19; Clinical pathways; Clinical indicators; Managerial organization; Financial performance.

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1. INTRODUCTION

Clinical pathways (CPs) represent a theme of extreme interest to the scientific community with the primary purpose of improving the quality of patients' health (Lawal et al., 2016; Furuhashi et al., 2017; Furuhashi et al., 2020). They constitute one of the leading clinical governance tools needed for managing patient care within a healthcare organization; they are intended to design the best patient-focused care flow for improving the global quality of the healthcare process (Vanhaecht et al., 2010), starting from their standardization, which should prevent to delay responses.

From a clinical point of view, implementing CPs has proved to be an effective tool for monitoring and improving the clinical process indicators (e.g., the length of the hospitalization, the mortality rate, and so on), but it is evident that their utility works even for the managerial and financial profiles of the healthcare organization (for example, the patient satisfaction), most of all by virtue of the revisions that allow their continuous improvement (Lin et al., 2011; Burgers et al., 2014; Nielsen et Nielsen, 2015; Velthoven et al., 2016; Haugan et al., 2017). However, the COVID-19 pandemic highlighted the need for a reorganization of CPs based on primary healthcare criteria, as recommended by the World Health Organization (WHO); in this respect, this study aims to analyze the organizational responses, from a managerial and financial point of view, adopted in treating non-COVID-19 patients with respiratory insufficiency in the Intensive Care Unit (ICU) in an Italian case study before, during, and after the COVID-19 pandemic.

The paper is structured as follows. After a focused literature review, the case study has been investigated, providing evidence about potential organizational changes, due to the pandemic, in the structure under analysis, with managerial and financial interest; subsequent implications have been provided, with evidence of the potential limits of the research.

2. LITERATURE REVIEW AND RESEARCH OBJECTIVE

CPs in healthcare companies, concerning diagnosis, therapy, assistance, and/or rehabilitation, constitute a fundamental point of reference not only for the clinical dimension of the healthcare process, as mentioned above, but also for the managerial dimension of the healthcare company, significantly at an organizational, operational, and financial level (Schettini et al., 2022). Their introduction is based primarily on the need to provide greater quality of care to the patient (in a global view), not only downstream (i.e., the quality delivered), but also upstream (i.e., in terms of risk management) (Romeyke and Stummer, 2012).

The impact, from a managerial point of view, of a correctly designed and implemented CP is essential (Al-Habib, 2020). In terms of costs, in fact, the correct planning of a clinical path tends above all to make the process more efficient from the perspective of the health appropriateness, which becomes even efficiency in terms of costs of the resources that have been involved (which naturally does not necessarily mean the lowest possible cost of the performance) (Devailly and Josse, 2016); in terms of risk management, moreover, it allows to minimize the probability of the adverse event and the related potential damages (Hart, 2003; Konishi, 2003). In terms of revenues, on the other hand, the higher quality supplied or at least the greater appropriateness of the quality supplied should allow greater economic and financial benefits for the healthcare company, due to the probable better reputation, with consequent loyalty of the acquired patient/customer and attraction of the new patient/customer to be acquired (Flics et al., 2020).

The COVID-19 pandemic, however, has impacted the organization of the healthcare companies in a completely inconceivable way (Dhar et al., 2020; Jalili et al., 2021; Tsamakis et al., 2021; Wankhede et al., 2021; Mediani et al., 2022). First in China and subsequently throughout the rest of the world, in fact, the unpredictability of the pandemic, the consequent massive impact, and the physiological unpreparedness of the healthcare organizations in the responses to the treatment of this Coronavirus have affected not only this specific profile of the health management (i.e., how to react to the COVID-19 pandemic), but also and in some respects above all have affected the other healthcare services and the related performances, inevitably subordinated to the emergency from COVID-19 (Al-Tawfiq et al., 2020; Florin et al., 2020; Roy et al., 2021).

In this direction, it therefore seemed appropriate to investigate the possible changes that the impact of the COVID-19 pandemic has generated in the management of the CPs when concerning non-COVID-19 patients. Moreover, it seems that there exists a considerable gap in the relating scientific literature (a query on Google Scholar with the following syntax: "+COVID-19" +"non-COVID-19" +"clinical pathways" +"organizational change"; provided only one result: Donelli et al., 2022), most probably given the novelty of the subject in question (COVID-19) and also given the relative persistence of the circulation of the virus at the time of this study (2022), with consequent constant evolution of the related processes organizations, thus arriving at the following research question.

RQ1: "Has the COVID-19 pandemic changed the organization and the management of non-COVID-19 CPs?"

3. METHODS

This study aims to detect if and explore how the COVID-19 pandemic has impacted from an organizational point of view the CPs in the healthcare organizations, and in this respect, the research has been engineered as a descriptive study about non-COVID-19 patients with respiratory insufficiency

that were assisted in the ICU of the “Casa Sollievo della Sofferenza Research Hospital” (CSS), a relevant healthcare institution for Central and Southern Italy that the Italian Ministry of Health acknowledges as a Research Hospital (IRCCS), because it implements scientific and clinical activities altogether, in collaboration with the most authoritative Italian and international research centers, particularly in the fields of Genetic Diseases, Innovative Therapeutics, and Regenerative Medicine; covering all the medical specialties, it is one of the largest hospitals in Southern Italy, with a yearly average of 57,000 inpatients and 300,000 outpatients. The data under analysis were collected from the IT (Information Technology) systems of the company; the local information system is capable to integrate A) data for over 8 years on nearly 300,000 clinical inpatient events and related medical records, B) personal and health data referring to more than 1,500,000 patients, C) more than 2,000,000 radiological studies, D) more than 750,000 laboratory exams, and E) an overall amount of 4,500,000 clinical documents; for all these reasons, it has been chosen as an extreme case (Eisenhardt, 1989; Yin, 1994).

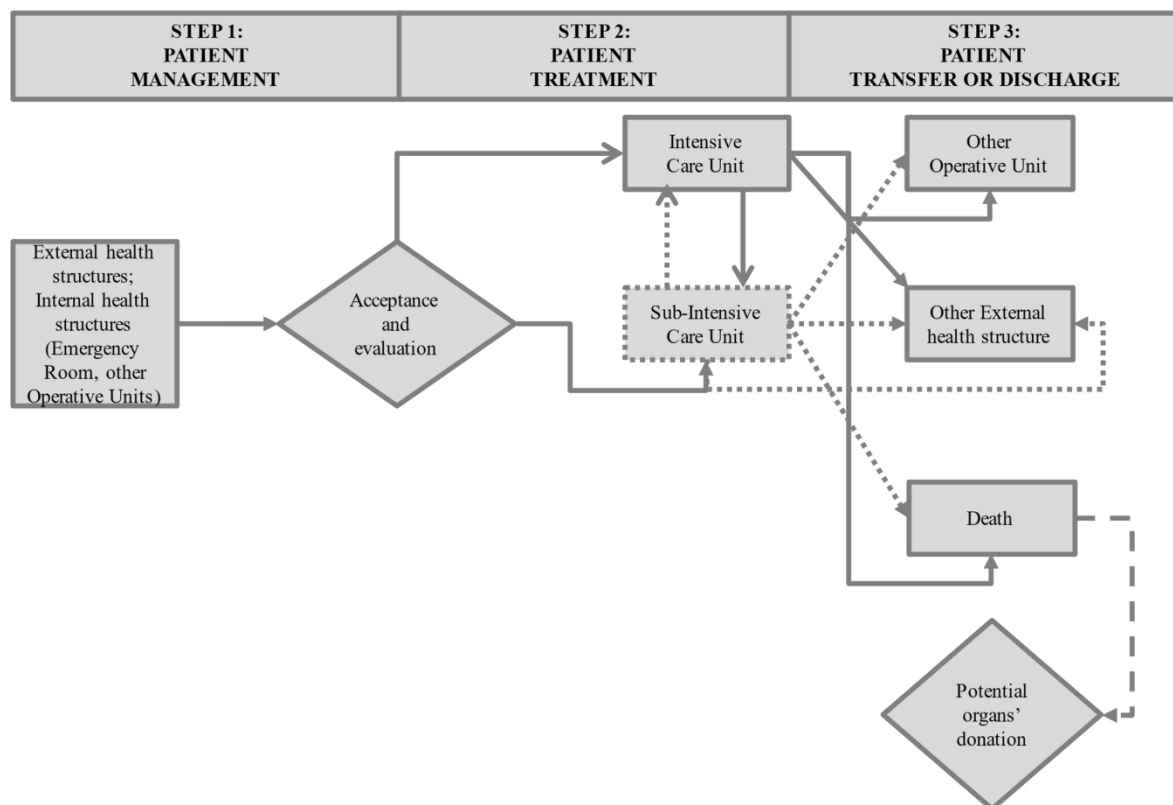


Figure 1. Flow diagram of the patient's flow within the ICU's process (authors' elaboration).

It is to mention that the data analyzed in the study have been extracted from the Electronic Medical Records (EMRs) only with reference to past admissions, for which related permission to the data treatment (as per the General Data Protection Regulation 2016/679) was opportunely acquired. Thus, there were not participants recruited for providing clinical trials.

Figure 1 provides the CP template that is normally adopted in the ICU of CSS (and naturally even in most of the ICUs of all the other healthcare organizations). This evidence was necessary to understand where to identify, collect, extract, prepare, and aggregate the different data to be processed into the analysis (i.e., Patient Treatment > Intensive Care Unit).

The data extraction period regards four years (from 1 January 2018 to 31 December 2021), aiming to detect and explore possible changes in the organization of the CPs due to the Covid-19 pandemic outbreak; only 2018 and 2019 were selected to maintain coherence (2+2) with the COVID-19 years (2020 and 2021). Four categories of data were extracted.

- 1) Patient information (e.g., age, gender, date of admission, date of discharge, and so on).
- 2) Records for the direct use of the CPs (e.g., date, date of admission, date of transfer to and from the ICU, number of re-entries, name of the disease, and so on).
- 3) Register of the medical care (e.g., type and number of services performed at the Radiology Unit, date of execution, and so on).
- 4) Register of the healthcare workers (e.g., number of nurses, number of professional caregivers, and so on).

Naturally, of the abovementioned databases, the fourth does not concern patients. Applying the query, i.e., non-COVID-19 patients with respiratory insufficiency treated in the ICU in the 2018-2021 period, onto the first three abovementioned databases of CSS, 749 patients (already normalized with respect to the hospitalizations) were found.

4. CALCULATIONS.

All the items for the data analysis have been defined using elements in the four databases. The primary outcome of this study, i.e., the length of the hospitalization in the ICU, was calculated as the difference between the entry date of the patient in the subsequent Operative Unit (cf. Figure 1) and the entry date of the patient in the ICU. To obtain further and more detailed information on the management of the CP before (2018-2019) and during/after (2020-2021) the COVID-19 emergency, data relating to the number of radiological services performed and the number of health professionals employed in the coherent period were collected.

Some variables have been prevalently used as exploratory: (1) sex (used as an element in the patient information database); (2) age (considered as the difference between the hospitalization date and the birthday date); (3) re-entry (yes or no, used as an element in the CP information database; a re-entry is a further hospitalization of the same patient in the same year); (4) days of hospitalization (used an element of evaluation of the clinical efficiency, with all the related limitations); (5) hospital discharge (used as an element both in the patient information and in the CP database). Table 1 presents the

patient's characteristics respectively before (2018-2019) and after (2020-2021) the start of the pandemic from Covid-19, with the last column providing the evidence of the differences (when relevant).

Variable	Years					Difference
	2018	2019	2020	2021	Total	(2020+2021) – (2018+2019)
Patients*	228	206	160	155	749	-119
Sex						
Male	127	116	101	102	446	-40
Female	101	90	59	53	303	-79
Age (years)						
Mean (SD)	65.87 (17.87)	62.86 (22.72)	65.74 (16.53)	66.14 (17.57)	65.05 (19.09)	2.91 (n.r.)
Median (Min – Max)	70 (1 – 95)	70 (1 – 99)	70 (2 – 94)	71 (2 – 99)	70 (1 – 99)	(n.r.) (n.r.)
Total N. of Patients**	225	205	158	144	732	-128
Hospital re-entry (N. of patients)						
No	213	189	153	151	706	-98
Yes	15	17	7	4	43	-21
Re-entry rate	0.07	0.08	0.04	0.03	0.06	(n.r.)
Days of hospitalization***						
Mean (SD)	13.67 (16.19)	17,26 (23.07)	18.41 (25.31)	16.01 (18.44)	16.15 (20.87)	3.49 4.49
Median (Min – Max)	6 (1 – 89)	7 (1 – 133)	6 (1 – 202)	7 (1 – 98)	6.5 (1 – 202)	(n.r.) (n.r.)
Sum	2,858	3,263	2,688	2,370	11,179	-1,063.00
Hospital discharge						
Deaths (n)	102	92	83	89	366	-22
Mortality rate	0.45	0.45	0.52	0.57	0.49	0.19
Transfer to other external institute (N.)	6	4	9	2	21	1
Transfer to other O.U. (N.)	120	110	68	64	362	-98

Table 1. Descriptive statistics on patients' characteristics (authors' calculation). *Number of patients normalized with respect to the hospitalizations. **Without considering the number of deaths with less than 1 year of life. ***Without considering the hospitalizations with length equal to 0 and without considering 1 hospitalization with an exceptional length of 477 days). N.R. (n.r.) means "not relevant" in that peculiar calculation.

The abovementioned results have been then commented in the perspective of exploring the potential impact of the COVID-19 outbreak on the healthcare organization. Naturally, other clinical, managerial, and financial variables could have interfered in the 2020-2021 period, but the COVID-19 pandemic is reasonably the most relevant reason for any change that has occurred.

5. RESULTS

As highlighted, the main exploratory variables of the patients under investigation are sex, age, re-entry, days of hospitalization, and hospital discharge (cf. Table 1). The results of the data analysis would provide information on possible changes comparing the clinical performances before and after the outbreak of the COVID-19 pandemic (with consequent managerial and financial impact).

The primary outcome of the research consisted of comparing the duration of the hospital-stay within the ICU (and related mean, standard deviation (SD), and median) with the respective minimum and maximum of the days of hospitalization. The evidence is about an increase of the average length (the increase of the average is equal to 3.49, but with significant variability, since the increase of the standard deviation is equal to 4.49), due to the COVID-19 outbreak (less availability of hospital beds inevitably has forced to grant access to the ICU only to those non-COVID-19 patients that were more than seriously affected).

For a more in-depth interpretation of these data, Figure 2 reports the median and the maximum duration of the hospitalization for the four years of investigation. For the abovementioned reasons, i.e., “Without considering the hospitalizations with length equal to 0 and without considering 1 hospitalization with an exceptional length of 477 days”, the minimum level of hospitalization days has been set to 1.

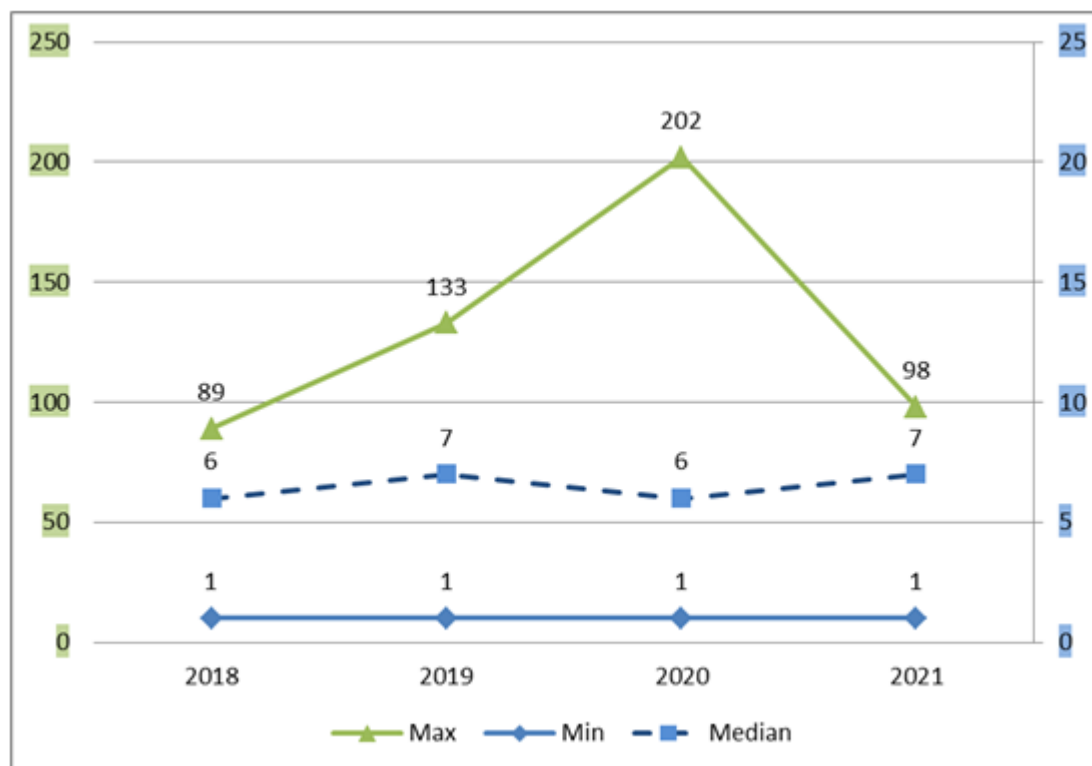


Figure 2. Curves about the hospitalization length (Authors' calculations).

The average value of the median is 6.5 and, moreover, comparing the years in the absence (2018-2019) with those in the presence (2020-2021) of the COVID-19 emergency, it is to mention that the trend of the curve of the median does not undergo significant changes. The curve that describes the evolution of the peaks of the hospitalization length shows an increasing trend till the year 2020 (when it was recorded the maximum, i.e., 202, for the four years under investigation), followed by rapid downward in 2021, in truth even lower than 2019 (898 instead of 133).

In addition to the previous outcome, which remains the main results of the research, two other investigations have been performed to enrich the global evaluation of the evolution of the efficiency of the CP. First, the analysis in Figure 3 that compared the number of radiological exams performed on patients (with financial interest); and second, the average number of health workers employed (with managerial interest) in Table 2.

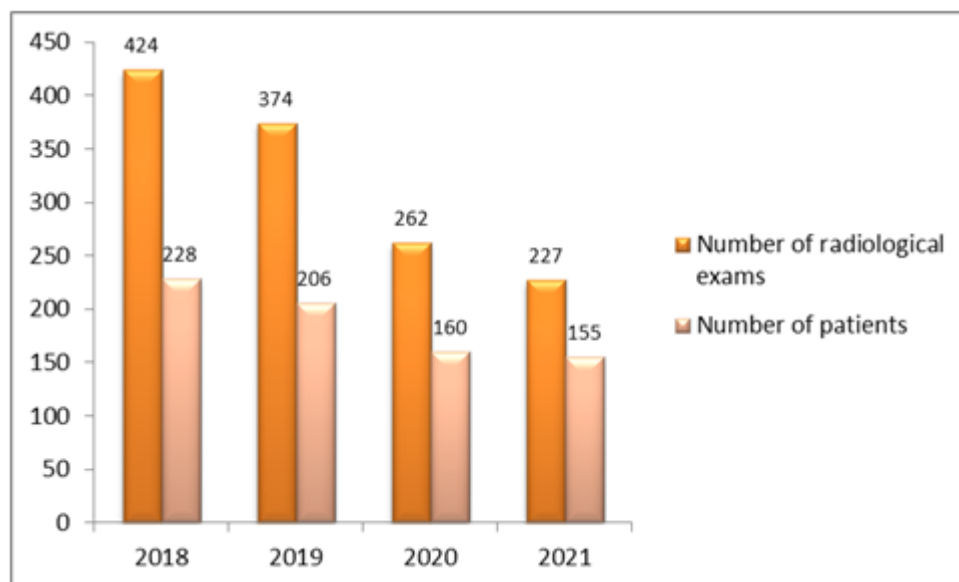


Figure 3. Comparison of the number of radiological examinations performed on patients in the ICU and the number of patients (authors' calculation).

Table 2 shows the number of units of the ICU care-staff along the four years (nurses and professional health caregivers, without considering doctors, paramedics, and technicians). Since 2020, with the outbreak of the COVID-19 pandemic, the increase of the units of the care personnel, especially in the nursing staff, is noteworthy.

	2018			2019			2020			2021		
	Jan	May	Nov	Jan	May	Nov	Jan	May	Nov	Jan	May	Nov
Nursing staff	85	86	84	86	86	86	87	101	93	96	102	95
Professional health-caregiver	4	4	4	4	4	4	4	5	5	4	5	5
Total	89	90	88	90	90	90	91	106	98	100	107	100
Mean	89.00			90.00			98.33			102.33		

Table 2. Care staff workers of the ICU (Authors' calculation).

January 2020 is the last month before COVID-19 in Italy; May 2020 is the month of exit from the first lockdown in Italy; and November 2020 is the month with a substantial new lockdown in Italy. To maintain some temporal coherence, the same months have been adopted as points of reference also for the other three years under investigation (2018, 2019, and 2021).

Finally, Figure 4 shows the changes of the three main variables studied in this paper for the four-year survey. As can be observed, days of hospitalization and care staff workers tendentially increase, while the number of the radiological exams tendentially decreases.

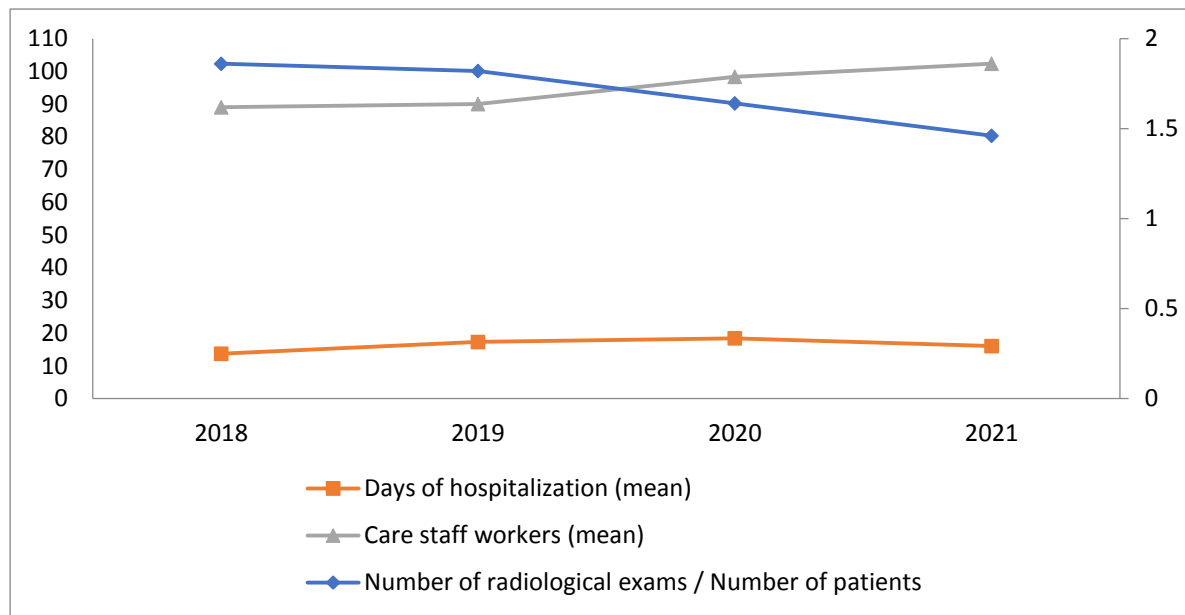


Figure 4. Comparison of the temporal evolution of days of hospitalization (mean), care staff workers (mean), and number of radiological exams / number of patients (from 2018 to 2021) (authors' calculation).

Thus, Figure 4 provides a general summary of the main outcomes of the research. The orange curve describes the average trend of the hospitalization days for the four years; the peak was reached, for the period under analysis, in 2020, with the outbreak of the COVID-19 pandemic; this evidence seems due to the understandable unreadiness to face a pandemic with that dimension and impact, particularly from an organizational point of view.

Instead, the green curve shows the number of units of the care-staff working in the ICU. It goes from a minimum average level of 89 units in 2018 to a maximum average level of 102 in 2021, and this evidence is directly connected to the necessity of reacting from an organizational point of view to the pandemic outbreak.

Finally, the blue curve shows the incidence of the number of the radiological exams that were carried out on the number of the total patients, which, as previously highlighted, has decreased. It is to mention that this is a very significant indicator, from a clinical, managerial, and financial point of view.

6. DISCUSSION

The main outcome of the research, as abovementioned, concerns the evidence emerging from the investigation in detail of the hospitalization stay. The intention, as per the general aim of the study, is to understand if and how the modifications to the healthcare organization due to the COVID-19 emergency has impacted the CPs.

The first result of the current examination (i.e., the CP related to non-COVID-19 patients with respiratory insufficiency) is that the maximum hospitalization length for the year 2021 (98 days) is lower than the maximum hospitalization length for the year 2019 (133 days). This appears as a significant achievement, which can be considered in the light of an increased awareness from an organizational point of view, due to the huge experience that the CSS has been forced to put in practice, like all other healthcare organizations, because of the pandemic management.

In truth, it is to mention that in 2021 (cf. Table 1) the global sum of the hospitalization days decreased, notwithstanding the hospitalization of fewer patients, because almost the half of the hospital beds were reserved in that period to COVID-19 patients, while the average length was high. Thus, the evidence is that the fewer patients (with respect to 2018 and 2019) have been interested by longer stay than in the previous years, most probably because of emerging procedures connected to the COVID-19 treatment even for non-COVID-patients and because of the different proportion of the care-staff units engaged in the treatment of the non-COVID-patients (which naturally was 100% before the COVID-19 pandemic).

In fact, from Table 2 it is evident that there is a more significant number of human resources employed for the years 2020 and 2021 when compared to the two pre-COVID-19 years. It can be assumed that the emergency forced to enroll new personnel units to manage the crisis, with a global increase of the personnel in general of the ICU, but, as abovementioned, differently distributed for COVID-19 and non-COVID-19 patients (and most probably this is a first relevant impact from a managerial point of view).

As concerns the efficiency of the CP, from Figure 3 it is evident that the radiological exams (fundamental for the clinical success of the process) that have been carried out in the years 2020 and 2021 decreased when compared to those carried out in the years 2018 and 2019 with respect to the total of the hospitalized patients. This evidence seems due to two main factors: (1) the decrease of the total number of non-COVID-19 patients; (2) the prevention of possible infectious risks of COVID-19 during the transport of the patients from the ICU to the Radiological Unit for performing the related examinations (in this respect, in terms of organizational change or at least in terms of organizational improvement, increasing the number of personnel units in this process would probably ensure a level of care similar to the pre-COVID-19 years).

At the end, the previous reflections, considering the abovementioned changes, seem to provide sufficient evidence to respond to RQ1 ("Has the COVID-19 pandemic changed the organization and the management of non-COVID-19 CPs?" – "Yes"). At the same time, it is to mention that this result needs continuous investigation in further research; in fact, the detected changes require constant monitoring in the future, even in the light of the potentially different circulation of the virus.

7. IMPLICATIONS

From a theoretical point of view, the main scientific consequences deriving from the evidence that emerged from the research concern the methodological vision of the functioning of the healthcare companies, which are increasingly oriented, for many different reasons, to Innovation Management and Risk Management. If in normal circumstances a more innovative and less risky healthcare CP develops greater competitiveness in the healthcare market (in the perspective of the excellence), in exceptional circumstances, such as the COVID-19 pandemic, a more innovative and less risky CP represents a response that is only adequate to the contextual competitiveness in the healthcare market (in the perspective of the excellence), even though one could think that an adequate response to an exceptional circumstance could in truth constitute an almost excellent response.

In this respect, the necessity of a broad multidimensionality of the business vision in the healthcare sector, at public or private level, emerges with even major emphasis; in fact, a purely clinical response to an environmental change, normal under normal circumstances or exceptional as in the case of COVID-19, would clash with the consequent financial unsustainability, which would imply to appropriately treating (from a clinical point of view) some patients, being at the same time not capable to properly treat all the others. Instead, only a multidimensional vision (at clinical, organizational, operational, and financial level) makes it possible to plan, deliver, and, in the event of an emergency, react in a sustainable manner in favor of the entire health community.

From a practical point of view, the main scientific consequences deriving from the evidence that emerged from the research concern the need to continually revise the CPs, with a view to continuous improvement as prescribed by any quality management system (formal or informal). Normally, in fact, continuous revisions allow for incremental innovation, but in the case of exceptional circumstances, such as the COVID-19 pandemic, continuous revisions allow for radical innovation, which in the case study under investigation is highlighted by the significant changes that concerned the duration of hospitalization (with clinical interest), the number of healthcare personnel (with managerial interest), and the number of radiological examinations (with clinical and financial interest).

CPs, in fact, owe their constant innovation not only to the evolution of the medical science in a broad sense, but also to the evolution of the organizational, managerial, and financial skills that contribute to

their efficient management or at least to their best appropriate management. In this respect, it becomes essential to proceed with continuous training of the operators involved in the CP, both health and non-health, in all the issues of interest for that specific CP (and therefore, also about organizational, managerial, and financial problematics).

8. LIMITATIONS

The research shows some shortages. First, the limitations that are usually existent in a case study methodology, i.e., the data relate to the experience in a single hospital, whose evidence, although chosen as an extreme case (or perhaps particularly for this reason), cannot be assumed for other healthcare organizations and national and international level. In truth, Bosa et al. (2021) sustain that differences in the pandemic management have been found between and among regions, emphasizing the physiological limits of a case study (thus, in the progress of the research more data, with reference to a larger number of healthcare organizations, could be very useful).

Second, the CP under investigation was analyzed for a single unit (ICU) and was focused on very peculiar patients to treat (non-COVID-19 patients with respiratory insufficiency). Therefore, expanding the number and the variety of the CPs could provide major reliability to the evolution of the research.

Finally, to date, it seems that very few studies have analyzed the impact of COVID-19 on specific CPs, and most of all with a global approach, i.e., considering the clinical, organizational, managerial, and financial perspective. Thus, this study has been implemented even adopting an exploratory intent, with the related limits concerning its theoretical and practical impact, which in truth seems noteworthy.

9. CONCLUSION

Despite the tremendous impact of the COVID-19 pandemic on the healthcare systems, CPs remain an effective tool to ensure a better quality of care for the patients. More specifically, they are fundamental for reducing the length of the hospitalization, which is a clinical performance with relevant meaning even at managerial and financial level (Trimarchi et al., 2021).

In this study, a group of 749 patients (non-COVID-19 patients in ICU with respiratory insufficiency) has been investigated, showing increase of the days of hospitalization (with clinical interest), increase of the care-staff units (with managerial interest), and decrease of the radiological exams (with financial interest). At the end, it is to mention that, in the case study under analysis, the impact of the COVID-19 pandemic has been relevant, forcing to adopt several changes at organizational level to manage not only the pandemic emergency, but also to provide response to 'standard' patients, even with major complexity due to the COVID-19 situation, and that only a systemic vision of the CPs, considering

altogether the related clinical, organizational, managerial, and financial dimensions, has allowed to record considerable outcomes even in times of COVID-19.

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TOWARD A CASHLESS ECONOMY: PRELIMINARY RESULTS FROM ITALY

Graziano, Elvira Anna; Musella, Flaminia; Petroccione, Gerardo

Link Campus University, Via del Casale San Pio V, 44, 00165 Rome, Italy

ABSTRACT

Covid-19 pandemic represented a worldwide unprecedented scenario, that changed the individual habits also in relation to consumer behavior. This analysis investigates how and whether payments habits changed due to Covid-19 Government's restrictions in Italian context, where cash has always been the most used payment instrument. Through the administration of a questionnaire addressed to the Italian population between November and January 2022, the aim of this paper is to analyze the effects of the pandemic in relation to the use of the types of payments in Italian context. The data for this work was gathered through a CAWI approach across Italy between November and January 2022. Preliminary findings show that the need to use innovative payment tools has cleared the feeling of reticence that Italians had towards them. In addition, the use of devices such as smartphones and tablets, thanks to the lockdown, has increased both for social needs and for work and training needs, also by users of very heterogeneous age groups. Moreover, the strong growth in the use of digital technologies, which has implied a greater distance between consumer and merchant, has favored mobile and contactless payments, as evidenced by the share of total purchases with card - both contactless card transactions at the physical point of sale and online transactions. Although the literature has examined the impact of Covid-19 pandemic on different financial aspects related to Italy, to our best knowledge, no prior studies have examined the impacts of Coronavirus pandemic on the Italians payment behavior.

Keywords: Payment behavior, Payment habits; Covid-19; Cashless payment, Payment Card

INTRODUCTION

What impact will the Covid-19 pandemic have on payment patterns? What kind of influence will it have on the global economy? In the Italian setting, where cash has long been the most widely utilized payment tool, our exploratory research examines how and whether payment patterns altered as a result of the Covid-19 Government's limitations. Based on these premises, this paper aims to investigate how the fear of contagion has been able to change Italians' needs and trust in mobile payments. Through the dissemination of a questionnaire addressed to the Italian population between

November and January 2022 the purpose of this work is to analyze the effects of the pandemic in relation to the use of the types of payments in Italian context.

The global economy has been completely influenced by the Covid-19 pandemic. This has led to significant social changes and major changes in our working habits, forcing us to rethink our way of life and to influence that of the younger generations in the future.

In order to contain the spread and contagion of the epidemic from Covid-19, many nations have taken exceptional precautionary measures, as the national lockdown.

The closure of many businesses and offices and the failure to provide services not strictly necessary have led to a slowdown in human activities and, as a result, have led to changes around payment-related activities as well. The fear of contagion using cash has led to a revolution in consumer payment habits which has led to a strong spread of digital payments, that have become key allies to avoid close contact using cash (Innovative Payment, 2021), and many citizens have approached, for the first time, the world of e-commerce and electronic payments. The introduction of specific legislative measures in addition to the spread of the pandemic by COVID-19 lead to an acceleration of the trend of digitization of payments in Italy which, in the next five years, is expected to increase by 12,7% per year (The European House - Ambrosetti, 2021) in correspondence with the value of the e-commerce, in strong growth starting from 2020.

The acquisition of these new purchasing habits will help to strengthen the use of digital payments with the help and thrust of several adopted legislative interventions that have introduced many new measures to stimulate the use of electronic payments through a strong increasing digitization process in the purchasing sector. This will allow many important benefits in terms of increased security for transactions, to reduce the use of cash and to combat the black economy and tax evasion.

The paper is organized as follows: Section 2 reviews the relevant literature related on individuals' payment decisions in relation to the Covid-19 pandemic and presentation of the research hypothesis. Section 3 briefly describes the data collection, while the preliminary results of the survey are presented in the Section 4. The final section presents the conclusions, describing also the limitations and the future lines of research.

COVID-19 AND PAYMENT DECISIONS: LITERATURE REVIEW AND RESEARCH HYPOTHESIS

Payment tools differ in several aspects, such as ease of use, transaction speed, anonymity, cost and security (Jonker et al., 2017). An increase in the use of alternative payment instruments to cash can be considered beneficial for society, as it increases security and contributes to a more convenient payment system. It is also considered beneficial for security, as it reduces the risks of cash theft and

robbery. The payment habits of consumers worldwide have changed significantly over the past decades, making it necessary to investigate how the consumers assess the security of payment instruments and how this influences their payment choices (Kosse, A., 2013), especially in relation to Covid-19 pandemic that represented an unprecedented scenario for the entire world. Therefore, it is difficult to expect literature to be available which has considered such a “never before” situation (Undale et al., 2020). Sheth (2020) examines the impact of the Covid-19 pandemic on consumer behavior. Through an analysis on the possible implications that the pandemic brought, the author believes that the social lockdown and distancing to combat the Covid-19 virus generated significant disruptions in consumer behavior. All consumption is tied to time and place. With the flexibility of time but the rigidity of place, consumers have learned to improvise in creative and innovative ways. Work-life boundaries are now blurred as people work at home, study at home, and relax at home. Since the consumer cannot go to the store, the store must go to the consumer. As consumers adapt to house arrest for a period, they are likely to adopt new technologies that make it easier to work, study, and consume more conveniently. Therefore, embracing digital technology is likely to change existing habits, also in relation to the payment. The study conducted by Tut (2020), through the collection of monthly electronic payments data from the Central Bank of Kenya (CBK), investigates the short-term effects of the Covid-19 pandemic on electronic payment systems by analyzing whether the pandemic facilitated the adoption of FinTech platforms in payments. This study finds that the pandemic initially had a negative impact on FinTech adoption, but favorable regulatory changes in the short term reversed some of the negative effects. Second, the use of all electronic payment cards declined significantly during the pandemic, except for the use of payment cards that increase when consumers switched to cheaper forms of payment. Overall, the findings suggest that the Covid-19 pandemic had a significant negative impact on economic activity and that this facilitated the entry of FinTech and digital platforms. Using card transaction data in Seoul, Kim et al. (2020) finds little evidence that Covid-19 stimulus payments influenced spending in non-allowed sectors and areas by rejecting income fungibility, implying that stimulus payments tied with usage restrictions may reduce household welfare gains. The authors suggest that 24 percent of stimulus payments was used to increase card spending. The estimated spending responses to stimulus payments were weaker in areas with higher average income and more cumulative Covid-19 cases, suggesting that citizen's liquidity constraints and risk avoidance behavior may have played an important role in the effectiveness of stimulus payments. In addition, stimulus payments flowed more to sectors and areas that suffered less during the pandemic.

Based on unique payment diary survey data collected among a representative panel of Dutch consumers, Jonker et al. (2020) observe the shift in payment preferences during the first phase of the

Coronavirus pandemic. The purpose of the work conducted by Baicu et al. (2020) is to investigate the impact of the Covid-19 crisis on consumer behavior in retail banking, focusing on the Romanian banking sector. The findings show that the variable related to the perception of the effect of the Covid-19 pandemic on consumers' lifestyle has a direct and positive influence on the variable related to the attitude towards internet and mobile banking services, mediated by other variables such as the security of internet and mobile banking use and trust in banks. Therefore, the respondents' degree of consumption of mobile/internet banking services increased during the pandemic compared to the period before the pandemic.

Using a survey of 5,504 respondents from 22 European countries, Wisniewski et al. (2021) examine preferences regarding cash and cashless payments at the point of sale (POS) during the Covid-19 crisis, highlighting consumers favor cashless transactions when they believe that handling cash presents a higher risk of infection. The authors find that those who believed cash carried a relatively high risk of viral transmission opted for cashless alternatives. Payment behavior was also transmuted indirectly through the impact the pandemic had on the patterns of our daily activities. The shift away from physical currency has also been attributable to changes in online behavior, albeit to a lesser extent. Interestingly, the possibility of contagion through cash and transformed habits not only drove the contemporary shift between payment instruments, but also imprinted themselves on respondents' future intentions to engage in cashless transactions, even after the Covid-19 pandemic was contained (Hart, 2020). With m-payments via QR codes, for example, consumers do not have to queue inside the same shop for a long time (Yan et al., 2021). These issues lead to our explorative research hypothesis.

H1: Fear of Covid-19 infection drives Italians to use alternative payment instruments

DATA COLLECTION

The data used in the development of this work comes from the distribution of a survey in Italy during the period November-January 2022. Data collection was carried out using the methodology based on Computer Assisted Web Interview (CAWI). Through social platforms such as Facebook, WhatsApp, Instagram, Twitter and LinkedIn, we shared the questionnaire with about 2,000 people, from which 852 compilations were collected. After cleaning by deleting those with missing values according to the suggestions provided by Schlomer et al. (2010), were reduced to 836.

PRELIMINARY FINDINGS

Socio-demographic features

From the socio-demographic descriptive analysis in Table 1, we find that the age range comprising most of the respondents is 26-35 with a percentage of 29.07 (No. 243), followed by 18-25 with a

percentage of 25.24 (No. 211), while the range age over 75 is residual probably due to less use of technological devices. About the gender variables, the percentage of women interviewed was 46.05 (No. 385) and 53.71 (No. 449) for men, while the remaining 0.24% (No. 2) preferred not to specify. Regarding their civil status, 34.45% (No. 288) declared that they were married, 59.09% (No. 494) were single, 5.38% were divorced or separated (No. 45), and 1.08% (No. 9) were widowed. Regarding the geographical distribution, 20.79% (N=174) were resident in the North of Italy, 22.49% (N=188) in the Centre and 56.72% (N=474) in the South. Regarding the size of the municipality of residence, 28.47% (No. 238) declares to live in a municipality below 5.000 inhabitants, 15.55% (No. 130) in one between 5.000 and 15.000 inhabitants, 13.64% (No. 114) in one between 15.000 and 50.000 inhabitants, 16.63% (No. 139) in one between 50.000 and 200.000 inhabitants, 3.83% (No. 32) in one between 200.000 and 500.000 inhabitants, while 21.88% (No. 183) claims to live in a municipality with more than 500.000 inhabitants.

Regarding the level of education, 0.84% (No. 7) obtained a primary school diploma, 1.44% (No. 12) a first-grade secondary school diploma (Middle School), 37.68% (No. 315) a second-grade secondary school diploma (Lyceum, Technical Institute, Professional Institute), 18.06% (No. 151) obtained a bachelor's degree, 31.22% (No. 261) a master's degree, 7.06% (No. 59) claimed to have obtained a postgraduate master's degree, while the remaining 3.70% (No. 31) obtained a Ph.D. As regards the profession, 66.40% of the sample interviewed (No. 555) said they had a full-time job, 25.84% (No. 216) were students, 2.63% (No. 22) were unemployed, 4.43% (No. 37) were retired, 0.60% (No. 5) were never employed, while the remaining 1% is disabled or unable to work.

Table 1. Descriptive Results

Variables		Coding	No	Percentage %	Cumulative %
Age	18 - 25	1	211	25.24	25.24
	26 - 35	2	243	29.07	54.31
	36 - 45	3	113	13.52	67.83
	46 - 55	4	108	12.92	80.75
	56 - 65	5	116	13.88	94.63
	65 - 75	6	39	4.67	99.30
	Over 75	7	6	0.70	100
Gender	Male	1	449	53.71	53.71
	Female	2	385	46.05	99.76
	Prefer not to say	99	2	0.24	100
Civil Status	Married	1	288	34.45	34.45
	Single/Unmarried	2	494	59.09	93.54
	Divorced/Separated	3	45	5.38	98.92
	Widowed	4	9	1.08	100
Geographical distribution	North	1	174	20.79	20.79
	Centre	2	188	22.49%	43.28

	South	3	474	56.72%	100
Number of inhabitants where you usually work	Less than 5.000	1	238	28.47	28.47
	Between 5.000 and 15.000	2	130	15.55	44.02
	Between 15.000 and 50.000	3	114	13.64	57.66
	Between 50.000 and 200.000	4	139	16.63	74.29
	Between 200.000 and 500.000	5	32	3.83	78.12
	More than 500.000	6	183	21.88	100
Education	Primary school	1	7	0.84	0.84
	Junior high school	2	12	1.44	2.28
	Secondary school	3	315	37.68	39.96
	Bachelor's degree	4	151	18.06	58.02
	Master's degree	5	261	31.22	89.24
	Master	6	59	7.06	96.30
	PhD	7	31	3.70	100
Work Status	Full-Time Work	1	555	66,40	66,40
	Student	2	216	25.84	92.24
	Unemployed	3	22	2.63	94.87
	Retired	4	37	4.43	99.30
	Never been employed	5	5	0.60	99.90
	Disabled or unable to work	6	1	0.10	100

Regarding the annual net income variable, 22.78% (No. 274) earned less than €9.999, 25.12% (No. 210) between €10.000-€24.999, 17.70% (No. 148) between €25.000-€39.999, 8.49% (No. 71) between €40.000-€69.999, 3.59% (No. 30), between €70.000-€100.000, 1.20% (No. 10) earns more than €100.000, while the remaining 11.12% (No. 93) preferred not to answer. As regard to the first question on purchasing habits, 23.56% (No. 197) claims that the average amount paid with M-Pay tools in the last month was less than €50, 16.63% (No. 139) between €50-99€, 12.32% (No. 103) between €100-€199, 8,73% (No. 73) between €200-€299, 12,44% (No. 104) between €300-€499, 12.80% (No. 110) above €500, while the remaining 12.80% (No. 110) claims to have never used M-Pay tools. Concerning the second question on purchasing habits, 47.01% (No. 393) claims to makes between 1 and 3 transactions per month using

e-commerce services, 26.20% (No. 219) makes between 4 and 7 transactions per month, 20.21% (No. 169) makes more than 7 transactions per month, while the remaining 6.58% (No. 55) claims that they have never purchased goods or services through online channels.

Table 2. Descriptive Results

Variables		Coding	No	Percentage %	Cumulative %
What was your net income last year?	Less than €9.999	1	274	32.78	32.78
	€10.000 - €24.999	2	210	25.12	57.90
	€25.000 - €39.999	3	148	17.70	75.60
	€40.000 - €69.999	4	71	8.49	84.09
	€70.000 - €100.000	5	30	3.59	87.68
	€100.000 or more	6	10	1.20	88.88
	Prefer not to say	99	93	11.12	100
What is the average amount you paid with mobile payment tools in the last month?	I did not use m-payment tools	0	110	13.16	13.16
	Less than €50	1	197	23.56	36.72
	Between €50 - €99	2	139	16.63	53.35
	Between €100 - €199	3	103	12.32	65.67
	Between €200 - €299	4	73	8.73	74.40
	Between €300 - €500	5	110	12.80	87.56
	More than €500	6	110	12.80	100
How many times in a month do you buy goods or use services online?	0 times	0	55	6.58	6.58
	From 1 to 3	1	393	47.01	53.59
	From 4 to 7	2	219	26.20	79.79
	More than 7 times	3	169	20.21	100

About the questionnaire, it consists of a total of 30 questions and the average response time is estimated at 5 minutes and 46 seconds and it is structured in five different areas aimed at collecting information related to the purposes of this work.

Regarding the COVID-19 worries, we use the first version of the "Survey Tool and Guidance: Behavioural Insights on COVID-19" formulated by the World Health Organization (WHO). This area

consists of four questions shown in Table 2, whose answers are collected by applying a 7-point Likert scale, where 1 stands for "not at all worried" and 7 for "very worried".

Table 2. COVID- 19 Worries Questions

	Coding	Questions	Range	Average
COVID-19 Worries	WR1	How often do you look for information on Covid-19 in the media?	1-7	3.66
	WR2	How reliable do you consider media reports (TV, newspapers, etc.) on Covid-19 to be?	1-7	3.58
	WR3	How worried are you about getting infected by COVID-19?	1-7	4.22
	WR4	How worried you are that someone close to you may get sick from COVID-19?	1-7	5.75

Source: World Health Organizations (WHO)

The average of the first and second answers, extracted from the questionnaire, is 3.66 and 3.58. From this it can be deduced that one in two respondents frequently looked for information on Covid-19 on the media and considered it to be very reliable. In addition to these questions, there were two others aimed at investigating the fear level among individuals generated by the virus. In particular, we asked respondents to say, on a scale of 1 to 7, how worried they were about being infected by COVID-19 and above all how afraid they were that someone close to them might be infected. As can be seen, the average of both responses is quite high, with respondents expressing some concern both for fear of becoming infected (4.22) and for fear of infecting someone close to them (5.75).

Regarding the preferences and use of payment tools, through the first five questions, we asked respondents to evaluate the different types of payment through a 7-point Likert scale where 1 stands for "very negative" and 7 stands for "very positive" (Table 3). Furthermore, using a further three questions, we asked them to express their opinion on the most important factors to consider when choosing the payment method to be used and to what extent they often used the contactless payment method. Eight questions make up this section, on which respondents gave their opinion.

Table 3. Payment preferences

	Coding	Questions	Options	Average/Percentage
Payment preferences	P PAY 1	How do you rate the various means of payment with respect to the following, regardless of whether you own them or not?	a. Cash (1-7) b. Credit Card (1-7) c. Debit Card (1-7) d. Contactless (1-7) e. Payment App (1-7)	Answer A = 3.92 Answer B = 5.08 Answer C = 5.23 Answer D = 5.54 Answer E = 4.92
	PPAY 2	What are the most important factors when you have to decide which means of payment to use? (Up to 3 answer options)	a. Ease of use b. Security c. Speed d. Expense control e. Hygiene f. Cost g. Don't know h. Refused to answer	Answer A = 54% Answer B = 68% Answer C = 54% Answer D = 37% Answer E = 7% Answer F = 19% Answer G = 1% Answer H = 1%
	PPAY 3	When you pay with your card, how often do you use the contactless payment function?	a. Always b. Often c. Occasionally d. Rarely e. Never (although I could) f. I have no contactless payment cards	Answer A = 37% Answer B = 38% Answer C = 9% Answer D = 7% Answer E = 4% Answer F = 5%
	PPAY 4	If you use the Contactless payment function, for which amounts do you use it?	a. Less than €10 b. €11- €25 c. €26- €50 d. €51- €75 e. €76- €100 f. Over €100 g. Any amount h. Refused to answer	Answer A = 5% Answer B = 22% Answer C = 14% Answer D = 3% Answer E = 3% Answer F = 3% Answer G = 45% Answer H = 6%

Source: Authors Elaboration

We find that the payment method most preferred by respondents is Contactless (5.54), followed by Debit Card (5.23), Credit Card (5.08), App payment (4.92) and Cash payment (3.92). Regarding the second question, the majority of respondents consider "security" (68%) to be the most important factor to consider when choosing which payment to opt for. The second most popular answer is both, "Ease of use" (54%) and "Speed" (54%), followed by "Expense control" (37%), "Cost" (19%) and "Hygiene" (7%). Furthermore, regarding the question on the use of the contactless payment function, 38% thought they used it "Often", 37% "Always", 9% occasionally and 7% rarely, 4% never used it even if they could, while the remaining 5% did not have cards with contactless payment functions. Finally, regarding the last question concerning the amount usually used for contactless payments, the sample interviewed leaned towards the option "any amount" (45%), followed by small payments "11-25 euros" (22%) and those in the range "26-50 euro" (14%).

The section concerning the technological device preferences is composed by four questions in order to understand: i. which devices were the most used by the interviewees and, ii. whether the Covid-19 pandemic had implied an increased use of these devices (Table 4).

Table 4. Technology device preferences

	Coding	Questions	Options	Percentage
Technology device preferences	TDP 1	What is the technological device you use most frequently?	a. Smartphone b. Desktop/laptop computer c. Tablet Computer d. Other (specify)	Answer A = 85% Answer B = 12% Answer C = 3% Answer D = 0%
	TDP 2	Did the use of these devices increase during the Covid-19 pandemic?	a. Yes b. No	Answer A = 89% Answer B = 11%
	TDP 3	If you answered yes, you used them most for:	a. Keeping in touch with loved ones b. Entertainment c. Social network d. Work e. Other (Please Specify)	Answer A = 30% Answer B = 21% Answer C = 18% Answer D = 31% Answer E = 0%
	TDP 4	What should a technological device guarantee you so that you can continue using it in the future?	a. Privacy b. Security c. Ease of use d. Quality of information e. Other (Please specify)	Answer A = 26% Answer B = 51% Answer C = 19% Answer D = 4% Answer E = 0%

Source: Authors Elaboration

Our preliminary findings show that the device most used by the respondents is the smartphone, represented by 85% of the sample, followed by the desktop/laptop computer with 12% and the Tablet, which represents only 3% of the sample. Furthermore, we observe that the Covid-19 Pandemic implied an increased use of the above-mentioned technological devices for as many as 89% of the sample surveyed. In particular, they used them for work purposes (31%), to stay in contact with their loved ones (30%), for entertainment (21%) and to surf on social networks (18%). The increased usage of technological devices has been probably conditioned by the lockdown and the several restrictions that have followed over time, which have led individuals to spend most of their time at home and therefore to have more time available to use those tools.

We have finally included four questions about the Italian Government's incentives during 2021, such as the State Cashback and the Receipts Lottery, in order to find out to what extent they have

encouraged individuals to use cashless payments and whether the recent suspension has led to a reduction in card payments (Table 5).

Table 5. Questions on Covid-19 Pandemic and State incentives

	Coding	Questions	Range	Average/Percentage
Pandemic and State incentives	BPAY1	How has the Covid-19 pandemic led you to prefer digital payment instruments over banknotes?	1-7	Average = 4.4
	BPAY2	How much the "cashback" bonus and the ticket lottery has encouraged you to use card payments?	1-7	Average = 2.94
	BPAY3	Does the suspension of the cashback bonus imply a reduction of your card payments?	Yes No Refused to answer	Answer A = 11% Answer B = 80% Answer C = 9%
	BPAY4	In your opinion, what are the main reasons that digital payments are not yet widely used in Italy? (Up to 3 answers options)	a. These are considered expensive b. These are linked to the possibility of fraud c. These are poorly accepted d. These violate privacy e. These are difficult to use f. These make payments traceable (evasion) g. I have the impression to spend more h. I am inclined to spend more i. Don't know l. Refused to answer	Answer A = 29% Answer B = 33% Answer C = 36% Answer D = 10% Answer E = 8% Answer F = 46% Answer G = 10% Answer H = 13% Answer I = 8% Answer L = 1%

Source: Authors Elaboration

The COVID-19 pandemic has a significant influence in encouraging individuals to prefer digital payment instruments over banknotes (4.4 on average). This behavior may be due to the risk of virus transmission by passing cash from one hand to another. Regarding the questions related to the incentives introduced by the Italian Government, such as State Cashback and the Receipts Lottery, most respondents stated that they did not have much influence in stimulating the use of card payments and, in addition, according to 80% of the sample, the suspension of the Government's incentives did not imply a reduction in card payments. Finally, we invited respondents to express their opinion on the main reasons why the use of digital payments was not yet widespread in Italy and we find that 46% of the sample believe that the main reason is tax evasion, 33% believe these are linked to the possibility of fraud, 29% believe these are considered expensive and poorly accepted,

while 13% believe these are not widespread because they encourage individuals to spend more than they should, without having control over their own spending.

As can be seen from the descriptive results, the COVID-19 pandemic had a very significant influence in encouraging people to prefer alternatives payments to cash. In fact, about 5 out of 7 respondents said that the virus has significantly affected the use of these innovative tools. This behavior, in fact, is due to the risk of transmission of the virus through the passage of cash from one hand to the other. Hence, according to the previous studies (Baicu et al., 2020, Hart, 2020, Husain et al., 2020, Jonker et al., 2020, Wisniewski et al., 2021) this results preliminarily confirm our research hypothesis

CONTRIBUTIONS

Academically, this study, like many others on mobile payment, aims to look into the elements that impact a user's decision to utilize the service. Several contributions have been made by this research. Firstly, our preliminary findings show that the need to use innovative payment instruments, such as payment cards or apps, has in fact cleared customs the feeling of reticence that Italians had towards these. The lockdown, which changed the consumption habits of Italians on the one hand, and the fear of the transmission of the Coronavirus through the passage "from hand to hand" of money on the other, have given a boost to the use of card payments and especially contactless applications, which until a few years ago had always remained underused, due to the deep-rooted preference of Italians for the use of cash.

Secondly, our preliminary results highlight that the use of devices such as smartphones and tablets, due to lockdown, has increased both for social needs and for work and training needs, even by users belonging to very heterogeneous age groups. In fact, if older people have used tablets and smartphones to stay in touch with their loved ones, young people in productive age and those in school age have used them to continue their work and teaching following the logic of smart learning and smart working. Lastly, the strong growth in the use of digital technologies, which allow greater distance between consumer and exhibitor, has favored mobile and contactless payments, as evidenced by the share of total purchases with paper - both transactions with cards with contactless technology at the physical point of sale and those via the internet, confirming the data of Bank of Italy (2020).

IMPLICATIONS

Based on the findings, Italy is recognized as a mature market in terms of infrastructure, particularly with regard to technology enablers (POS presence, systemic initiatives and availability of payment schemes). However, there is opportunity for development in terms of new solutions, particularly in

the FinTech industry, which will need to expand further at the national level. On the other hand, the country

would continue to gain from the solutions offered by foreign players.

At the same time, we have seen a series of interventions and specific measures by the Regulator and market players, to facilitate the transition to digital tools and the adoption of remote channels, also in response to the emergency context.

Indeed, the Italian regulator has promoted initiatives aimed at limiting the use of cash and encouraging digital payments, such as:

- From last July, reduction of the threshold of use allowed for single payment in cash from €3,000 to €2,000, with subsequent lowering to €1,000 from next January;
- Since last July, merchants have been granted a 30% tax credit on commissions charged for digital transactions;
- Introduction of the so-called "lottery of the receipts" and the Cashback POS (Cashback up to €300 for purchases with digital tools up to €3000);
- From last January 2021, the increase of the limit on contactless transactions from €25 to €50, below which the PIN code will not be required.

The acquisition of these new purchasing habits will help to strengthen the use of digital payments and, with the help and thrust of such legislative interventions, will provide many important benefits in terms of increased security for transactions, reduction of cash and to combat the black economy.

Another change that occurred with the advent of the pandemic from COVID-19 concerns the use of digital technologies. Indeed, a global emergency, the threat of the entire health-care system collapsing, a pandemic contagion caused by a virus that appears to be identical to many others already recognized but is far more difficult to battle. It's a true and proper conflict. So much so that the planet's economic, social, and productive dynamics will be irreversibly altered. Even in Italy, where a sector, telecommunications, has seen a Renaissance as part of this block of initiatives and firms. An explosion that resulted in a ten-year leap, with technology becoming the best friend of businesses, employees, instructors, students, relatives, and those seeking recreation. As a result, now may be the moment to turn the tables by speeding up the technological transition process in order to execute individual digitization and a stronger creative operational model focused toward the ongoing execution of the digitalization process.

CONCLUSIONS AND FUTURE LINES OF RESEARCH

Even with the advent of the COVID-19 pandemic, the payments system has proved to be the most beneficial and dynamic in terms of innovation and adoption of new functionalities. In particular, the

growth of the e-commerce sector has provided the necessary impetus for the full deployment of the digitalization of payments and the relative overcoming of cash, stimulating a growing consumer expectation for real-time payments. This has resulted in a significant reduction in costs because it simplifies and speeds up operations, thus producing benefits for everyone. All this induces companies and financial institutions to remain constantly focused on Information Technology (IT), improving, at the same time, the formation of their resources and setting the conditions for a continuous development of the sector, both to anticipate competition and to be ready for further transformations or future innovations.

Despite the contributions identified in several areas, this study is certainly not without limitations, the elimination of which may lead to the development of future research directions. Firstly, the descriptive analyses will have to be examined further, perhaps using a regressive statistical analysis such as Structural Equation Modeling (SEM), which shows the potential causal dependencies between endogenous and exogenous variables, so that the research results can be more reliable and, in addition, a clear informative representation of the observable and theoretical phenomenon can be outlined.

Secondly, the data were collected through a questionnaire submitted online in Italy. Although Italy was one of the first countries in the world to experience the tragic effects of the pandemic and restrictive measures such as lockdown, future work insights could lead to surveys submitted both online and offline, to broader and diversified samples. Since the analysis was conducted only on a sample of respondents in Italy, the conclusions of the research, while offering a valid picture of the payment behaviour of Italians, cannot be generalized to other countries. The generalization of results can only take place when the model is tested on a wider and more diversified sample of countries.

Thirdly, the future of the research will be, on the one hand, the development of the model and, on the other hand, the enlargement of the sample by running the survey in different realities. Therefore, it will be interesting and above all useful to compare the results of the Italian sample with those of another country in order to fully understand the impact that COVID-19 has had on consumer behavior and consequently on the world of payments.

Therefore, payments via electronic devices like cellphones are growing more common in Italy, according to research. However, some people are resistant to this technology, partly because they are unfamiliar with the services, and partly because they are concerned about their security. The number of individuals who use mobile payments is projected to rise as more people get familiar with the technology. In the meanwhile, businesses must offer services that ensure the security of users' money and personal information. Despite some fears that the fast spread of mobile payments may be

hampered, users appear to find the usage of such services to be quick and easy. In many aspects, payments in the near future will be based on mobile technology and, as a result, mobile payments.

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THE INTERACTION BETWEEN NEEDS AND TECHNOLOGY IN THE HEALTHCARE INDUSTRY: A NETNOGRAPHIC STUDY OF AN ONLINE HEALTH COMMUNITY

Hajdini, Johana; Iaia, Lea; Masciarelli, Francesca

Department of Management and Business Administration, University "G. d'Annunzio" of Chieti-Pescara, Pescara, Italy

ABSTRACT

With the emerging of Internet, it has become a common place where people are frequently seeking social support [35]. This paper is an investigation of the request for support in an online health community for people dealing with a stigmatizing health condition. It is part of a research-in-progress aiming to understand satisfaction of stigmatized patients and future engagement in the online health community. For this investigation we consider a netnographic approach to deeply explore the types of support and the thematic discourse generated in the online community of investigation. We extracted a total of 513 posts shared by members of the community within a week (3rd June - 9 th June). The findings suggest the existence of different types of support where network support and seeking emotional support are the most prominent among other types of support. From the careful analysis of the communication patterns within the OHC it has emerged that the communication is mainly directed in four macro themes, respectively: 1) feelings and beliefs, 2) time reference, 3) health and well-being, and 4) people of support. The findings of this study have important theoretical and practical implication.

Keywords: Online health community, Support, Channel expansion theory, Expectation-confirmation theory, Netnographic research.

INTRODUCTION

The development of interaction technologies as well as the emergence of networking sites and platforms has also influenced the healthcare industry. With the emergence of new and advanced technologies, transformative service research is rising as an important research direction in services marketing, promising to disrupt the way services are delivered and marketed to consumers (Parkinson et al., 2017; Rosenbaum et al., 2011).

As patients are using search engines to find health-related information, and considering online reviews for physician selection while sharing their opinions and experiences in websites available to all internet users, they are generating content available online to more and more patients every day [25, 31]. A possible context where to investigate the user generated content in healthcare are the online health communities (OHC), that recently are becoming very popular and attracting increased attention of patients seeking health information and support in dealing with a specific health condition [17, 21, 24]. While a broad stream of research investigates virtual communities from different perspectives and in different contexts, the first challenge is that of defining an online community. Adopting the definition of Preece (2000) we can define an online community as a group of people connected through the Internet that have a shared purpose, interest, or need and interact over time. Online health communities are an alternative to traditional communities that were transferred from on site to online with the emergence of Internet and social networking sites. As in every other community and as the literature suggests that “community implies more than mere social interaction, not all virtual groups are communities” [8], we can understand that there are important preconditions to be fulfilled for the existence of a community, such as commitment, connection to others, reciprocity, interaction, agency and consequences [12]. Moreover, the community itself is a very complex system, as the mechanism of participating, engaging, and identifying themselves with the community can be subject to varying understanding of participating and engaging in every member.

Several medical diagnoses are related to high social stigma and social exclusion of the individual, causing isolation, and worsening the psychological burden of the disease. A broad range of definitions exist for stigma in the literature, mostly linking the concept to social exclusion, social devaluation, shame, discrimination, and stereotyping (Fife and Wright, 2000; Link and Phelan, 2001; Yao, Zheng and Fan, 2015; Harmeling et al., 2021). According to the definition of Goffman (1997) “a stigma is an attribute that makes a person different from others in a social category and it reduces the person to a tainted or discounted status” [11]. Yet, we find a more comprehensive understanding in the conceptualization of stigma by Link and Phelan (2001), that assess the existence of interrelated components of 1- distinguishing and labeling differences, 2- associating human differences with negative attributes, 3- separating “us” from “them” and 4-status loss and discrimination. From this perspective we will focus on stigmatizing conditions and stigmatized consumers, trying to unveil their usage of OHC and the support they experience in the community. Furthermore, online communities promise to fill the information and support needs of patients dealing with a health condition that can be subject to stigmatization. As we can evidence an interaction between needs and technology, we consider important to understand this nexus and how technology is used to meet the needs for support when dealing with a specific health condition that can be subject to stigmatization. In these

circumstances, our setting will be that of an online health community (OHC), where a collection of stories shared, and interactions between participants, will generate the required data to carry our investigation. Therefore, the aim of this research is to fill the gaps in better understanding the role of online communities on support for stigmatized patients as extant research is very fragmented and fails to describe the real relationship as it occurs in its natural context [37], answering the following research questions:

RQ1: What type of social support are stigmatized patients looking for?

RQ2: What discussions take place in the online health community? What are the most important topics that stigmatized patients discuss in the community of investigation?

Moreover, considering that from a marketing point of view few studies investigate OHC as a communication channel for delivering support [34], we motivate the need for this investigation for both the theoretical and practical contributions it promises to deliver.

The contribution of this study is two-fold. Firstly, this study will contribute to theory by providing a comprehensive understanding of patient engagement in an online health community and an exploration of how support is developed, consumed, and perceived within the context. Moreover, an integration of channel expansion theory and expectation-confirmation theory, is promising to offer an integrative approach that can be a starting point of future investigations to get validation in another context or other virtual communities not specific to health. Secondly, this study will contribute to practice by providing useful insights in developing strategies to optimize the positive perceived effects from engagement in online communities and to maintain high levels of engagement.

LITERATURE REVIEW

Adopting the definition of Preece (2000) we can define an online community as a group of people connected through the Internet that have a shared purpose, interest, or need and interact over time. Online health communities are an alternative to traditional communities that were transferred from on site to online with the emergence of Internet and social networking sites. While a broad stream of research investigates virtual communities from different perspectives and in different contexts, the first challenge is that of defining an online community. As in every other community and as the literature suggests that “community implies more than mere social interaction, not all virtual groups are communities” [8], we can understand that there are important preconditions to be fulfilled for the

existence of a community, such as commitment, connection to others, reciprocity, interaction, agency and consequences [12].

Several motivations can justify the individual that is a patient itself or a family member caring for a patient to join the online health community. Considering one of the most important to find similar others that are experiencing the same health condition and their experience can be useful to the newly diagnosed, the need for support remains crucial to the joining initiative [38]. Except of looking for different types of support, when we are dealing with stigmatized patients, they find an opportunity to decrease stigmatization, while experiencing a feeling of belongingness and being accepted [4, 18].

Furthermore, online communities promise to fill the information and support needs of patients dealing with a health condition that can be subject to stigmatization (Yao, Zheng and Fan, 2015). This group of patients can experience isolation in the physical context, sometimes because it can be a possible symptom of their diagnosis, and sometimes because the stigmatization of the society they live in, forces them to make such decision of social isolation. Therefore, the OHC can gain increased importance in improving satisfaction, raising benefits, and improving outcomes of their treatment, as well as empower this specific group of patients and help overcome isolation while finding a new sense of feeling useful, understood and approved [33, 34, 42].

Literature suggests the existence of different types of social support delivered in online communities, respectively: informational support, emotional support, network support and instrumental support [3].

- Information support is related to the need for information on a specific health condition, suggestions that can come from personal experience and/or guidance on dealing with specific issues that may be related to symptoms, insurance, the usage of a medicine, etc.

- Emotional support is related to the expression and sharing of emotions, such as encouragement, empathy, affection, etc.

- Network support consists of common activities to all the networks and more often is related to discussions following outside the main topic of interest including chatting, daily life activities and offline activities not specifically related to the health condition.

- Lastly, instrumental support, which is the rarest type of support delivered in online health communities, refers to the practical context of dealing with the illness, linked to transportation of patients, assistance of daily activities, etc.

Therefore, we will check for the existence of any or more of the types of support on the OHC chosen as the setting of this investigation. As literature suggests, we expect the existence of all the types of support, with a dominance of informational and emotional support [4]. Moreover, considering the interaction within the community, we will not only classify posts regarding the type of support, but will also provide a classification related to the type of behavior of the participant, which may be seeking or delivering any type of support.

Different theoretical underpinnings have been considered in literature for the investigation of online communities. Most investigations of OHC are developed in the underpinnings of (I) communication theories (e.g., channel expansion theory) [22], (II) social and psychological theories (e.g., social exchange theory, social capital theory) [22, 41, 43], (III) motivation theories (e.g., theory of need to belong) [33], and (IV) cognitive theories (e.g., expectation-confirmation theory) [15].

While we find all the above listed theories important in the investigation of OHC, for this investigation we draw on two of these theories, namely the channel expansion theory [5] and the expectation-confirmation theory [26, 27]. The channel expansion theory is related to the media richness and explains the media-use in relation to the perceived richness of a communication channel [5]. On the other hand, the expectation confirmation theory assumes that the post adoption satisfaction is a function of expectations and perceived performance by the consumer, as well as a possible disconfirmation of beliefs [26, 27]. We find the integration of these theories useful to our research purpose.

METHODOLOGY

We investigate an OHC as a communication channel to deliver support from a patient perspective. In line with extant research that finds social support as the main reason for people engaging in information exchange activities [22], we further investigate the intention to maintain engagement in the online health community through their willingness to share and seek information. Therefore, we aim to answer the following research questions:

RQ1: What type of social support are stigmatized patients looking for?

RQ2: What discussions take place in the online health community? What are the most important topics that stigmatized patients discuss in the community of investigation?

We draw on a netnographic approach which is “an online marketing research technique for providing consumer insight” [19]. We find the netnographic study methodology to fit our research purpose as

netnography is usually considered as a tool for understanding customers [14]. Moreover, the netnographic approach is specifically adapted to the investigation of online environments and provides many advantages in contrast to traditional ethnographic research which requires more time, is quite expensive and what is the most problematic shortcoming is being obtrusive and exerting to the natural [19].

We aim to investigate the request for support of patients in online communities, if social support for healthcare consumers exists in online healthcare communities, what kind of support exist, how it is offered and what are the most important directions of discussion. This is part of a broader research, aiming to answer all the above raised concerns, and with the final aim to provide evidence for developing strategies to maintain engagement and increase benefits of participating in OHC for this group of patients. In the first step of this research, which consists to the actual paper, we will analyze text retrieved from online communication of patients. The text consists of interactions and stories shared between members of the community and a content analysis will be used to map the communication and understand the patterns/types of support emerging from it. In the next steps of this research, broader than the purpose of this paper, we aim to understand further engagement. Therefore, in the next step, a questionnaire will be delivered to the platform for participants willing to participate and share their perception of satisfaction. Analyzing all the retrieved data together with the textual analysis will give a comprehensive picture of the phenomenon of support in OHC and help provide the answers to our research questions, as well as provide implications for individuals, managers, and policymakers.

The conceptual model is presented in figure 1.

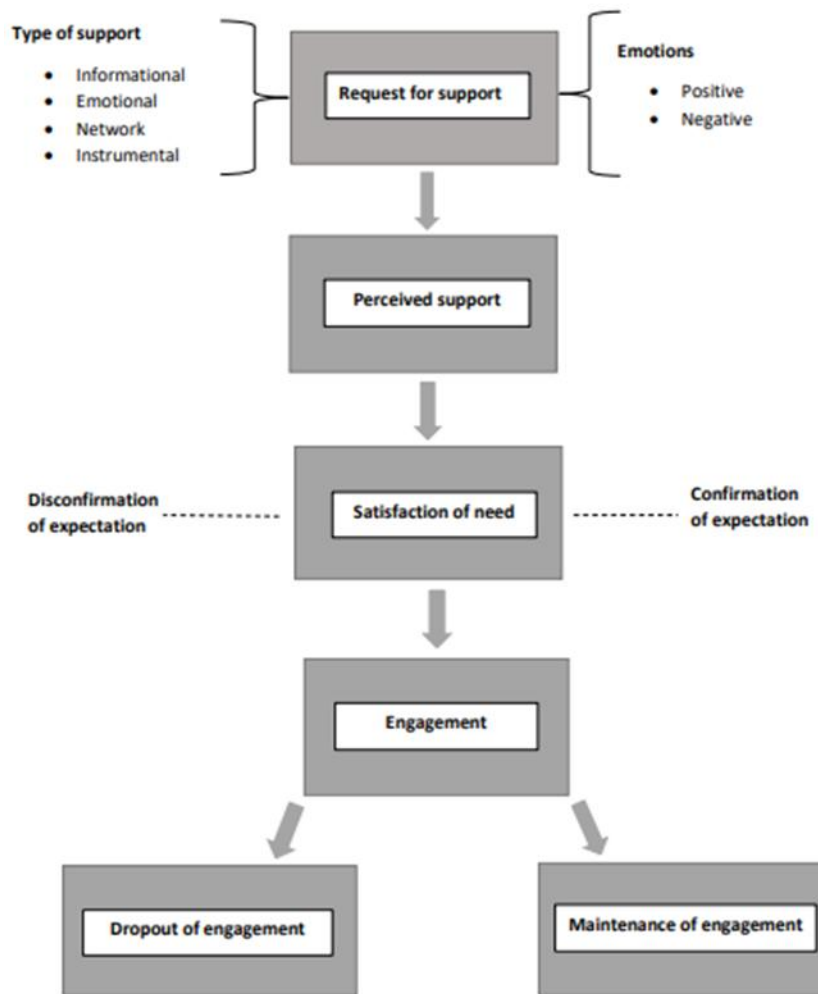


Figure 1. Research model

According to the model our variables of interest are the request for help, perceived support, satisfaction of need and engagement in OHC. When people go online or join an OHC, they may be looking for different types of support, respectively: informational, emotional, network or instrumental. Moreover, regarding to the emotional status they may be experiencing positive or negative emotions. From this perspective, the perceived support is in function of the support they are looking for in the OHC and the emotions they experience. To continue, with the satisfaction of need, participants create expectations for their participation in the OHC. When their expectations are confirmed, they will remain satisfied. Otherwise, a possible non-confirmation of the expected support within the community will leave them dissatisfied and possibly impact their future engagement. Under these circumstances we can evidence different engagements within the community, that are basically in function of their satisfaction. Participants can maintain their engagement in the community and continue to interact with similar others, or they can dropout their engagement,

because they find the OHC not useful to their needs, as they could not confirm their expectations and remain dissatisfied.

Data collection and data coding

The community we refer to is an online community dedicated to people dealing with mental health issues, a highly stigmatizing health condition. For ethical considerations, and for the sensitivity of the topic we deal to, the community and its members will remain anonymous throughout the entire study. Logging in to the community of our investigation, each member can generate a post that can be visible to all other members of the community. Despite that, the community offers the possibility of a private chat between members and several features to deliver or seek any kind of support. Members can interact with each other sending likes and virtual support, or they can comment to other members posts to share similar experiences, express support, share agreement/disagreement to a topic, etc. A group of moderators is present also on the platform trying to keep up the mood of the members of the community, as well as generate support by their own to members actively participating and in need of support.

In this stage of research reported in the actual paper, no interaction between participants and researchers was established, as the aim of this first step is mainly observative to understand and depict the process of request for support within the online community by the stigmatized patient. As so, we consider a passive approach to the collection of data, that by its own will allow us to picture the real features and explore in the deep the first step to meet the patients need for support, where the community is a source of satisfying this need that the group of stigmatized patients could not get in the physical setting.

To address our research questions, we collected posts generated by the OHC users. A considerable amount of content is generated within the community by their members. We extracted a total of 513 posts generated in the timeframe of a week (3rd June - 9 th June). After extracting the data, we started the categorization according to our conceptual framework.

Therefore, posts were checked if they fall in one of the following categories:

- 1- Seeking information support
- 2- Seeking emotional support
- 3- Seeking instrumental support

- 4- Delivering information support
- 5- Delivering emotional support
- 6- Delivering instrumental support
- 7- Network support

This classification was further combined with a classification of positive or negative emotions expressed in each post. A basic analysis of the texts with the Linguistic Inquiry Word Count (LIWC) helped use categorize the emotions in positive and negative. LIWC categorizes the language used in a text and delivers a report based on important features for further analysis [6]. The categorization of positive and negative tone on a 100-point scale where 0 means very low, and 100 means very high, was useful for our categorization. Comparing the point assigned by the LIWC software to each post in our dataset, we accordingly categorized in positive tone posts (therefore expressing positive emotions) the posts that were assigned to a higher point scale as compared to negative tone and so on. In several cases, with several posts collected in our dataset, the categorization of language expressing positive/negative emotions was not possible to apply, as the posts shared can be links to songs, or paintings, or pictures. In these cases, the posts are included in the non-applicable (NA) category.

Ethical considerations of research

Considering the netnographic approach from the customer's perspective, several issues can raise and risk the contribution such as privacy concerns and misuse of personal information gathered from the researcher. Moreover, in this research, as we are dealing with very sensitive health related data and with patients sharing personal information that in the offline context is subject of their stigmatization, an important effort was done by the researchers to ensure the fair use of the extracted content from the OHC. We considered a passive approach, even though in this approach the researcher does not have the possibility to contribute to the conversations [7], because the highly sensitive topic and the active interaction with the participants of the community can risk their trust in the platform, as well as affect future engagement.

According to the agreement of the platform, we paid attention to ensure that the participants data gathered and analyzed in our study was ethically used. We assured for their confidentiality and anonymity and therefore, we excluded the presentation of their direct quotes in our research.

Employing these ethical considerations, we highlight that the aim of gaining a rich understanding of the topic as well as providing important insights in maintaining engagement and optimizing benefits from participating in OHC, was done with the highest benefit of the customer in mind.

RESULTS

Descriptive characteristics

The OHC of interest was investigated to understand the type of support and the emotions expressed in their textual language. The descriptive characteristics are presented in Table 1. As we can understand from the table, in the community of investigation we did not find all the expected behaviors in the request for support. In our dataset no request for support was specifically related to instrumental support. Therefore, we could not find any request seeking/delivering instrumental support. Moreover, we find that network support is the most common type of support that can be evidenced in the posts of the investigated OHC, followed by seeking emotional support, and seeking informational support. This is an important finding because it shows that most patients in the OHC of investigation are looking for someone to talk, on a topic that probably falls outside the main topic of interest and this can be mainly linked to the stigmatization that this group experiences in an offline setting where they can find it difficult to find a friend or someone with whom to chat, considering that the individual faces discrimination and social exclusion in a normal context [23, 32]. Moreover, from the table we can notice that the request for network support is dominated by a language in a positive tone, as members are looking only for someone with whom can share a conversation on any topic of interest. Therefore, we can assume that it can be perceived as simpler to find network support among similar others. Seeking emotional support is the second most dominant behavior, suggesting that individuals are looking for emotional support and a mean to express their emotions to the outer world. What it is important to evidence here is the fact that in seeking emotional support, the language they used to do so is mainly dominated by a negative tone. This can be linked to their negative emotions related to their diagnosis and their place in society, as well as can be a request for reassurance from other members of the community that can have similar feelings and emotions, for them to understand that they are not alone. To continue, members of the OHC are looking for informational support considerably less than the first two requests for network and emotional support. As so to consider, delivering emotional support and delivering informational support come lastly in our sample of textual data retrieved from the OHC of investigation. This can be because for this investigation of requests for support we only categorized the postings of the members of the community and not the comments received on each post. Therefore, we think that delivering

emotional and informational support mainly come as an answer to a specific request for support, and as so we expect to find this behavior mostly prominent in the comments of the different posts, while as a stand-alone behavior they were found in few posts.

Table 1. Descriptive characteristics of request for help

Type of support	NA	Negative tone	Positive tone	Total
Delivering emotional support			22	22
Delivering informational support			2	2
Network support	47	28	182	252
Seeking emotional support	1	198	8	207
Seeking informational support	2	13	10	25
Total	50	239	224	513

Deeply investigating the content of the posts shared in all the types of support we found the following characteristics:

Posts on network support: Positive tone posts are related to general chatting, jokes, sharing daily activities and discussing on different topics such as television programs, music, sports, cooking etc. Negative tone posts are related to disagreement to a specific topic such as a regulation, a tax, talking about bad weather, etc.

Posts on seeking emotional support: Positive tone posts are related to happiness for a progress done in their health condition and asking for assurance from other members of the community. Negative tone posts are related to expressing feelings like sadness and fear about their health condition, feelings of guilt and frustration for not coping with a specific situation, loneliness, and helplessness, etc.

Posts on seeking informational support: Positive tone posts are asking for information on medications, therapies and doctors with a positive language that expresses at the same time optimism and feelings of relief. Negative tone posts are related to posts asking for information while sharing fear for the usage of a medication for a long time, fear for the future when learning a diagnosis, etc.

Posts on delivering emotional support: Only positive tone posts sharing positive feelings of hope for the future, where a major part of posts shared bible verses and motivational quotes.

Posts on delivering informational support: Only positive tone posts of useful information shared by their therapists which later members share with their online community and information on how to deal with a crisis related to a specific mental health diagnosis.

“life”, “hope” and “help”. This can suggest that the community itself can be an important source for help and hope for this group of individuals.

2) the *time reference* where people talk about a specific moment in time and use words such as “today”, “now”, “day”, “tomorrow”, “morning” and “night” to talk about “something” and a “feeling”, or “experience” in a specific moment in “time”. This can suggest that the community gains increased importance in specific moments in time for the stigmatized patient and therefore they rely on the community not only to share their feelings and experiences but also to talk about something that can probably not always be related only to their health status.

3) the *health and well-being* of members of the community where people talk about their “health” mostly following it with a labeling of “good” or “bad”, as well as about their “thoughts” that in our data was most frequently linked with “suicidal”. This result is in line with literature suggesting that patients with a mental health diagnosis are more prominent to experiencing suicidal thoughts as compared to the other part of population [10, 16]. Moreover, people here talk about “crisis”, expressing that they are “struggling” and referring to “difficult” situations, as well as refer for “anxiety” and “panic” most frequently followed with the term “attack”.

4) the *people of support* where they talk about “friends” and “family” as specific sources of support and use also other non-specific general terms as “people”, “someone” and “everyone”. This result is also important to understand from whom do stigmatized patients look for support and is in line with literature suggesting family and friends as the most important sources of support for patients [2, 36].

From the main thematic directions of discussion explained above, it is important to highlight that the three first clusters, respectively feelings and beliefs, time reference, and health and well-being attract more attention and are most highly discussed in the OHC of investigation.

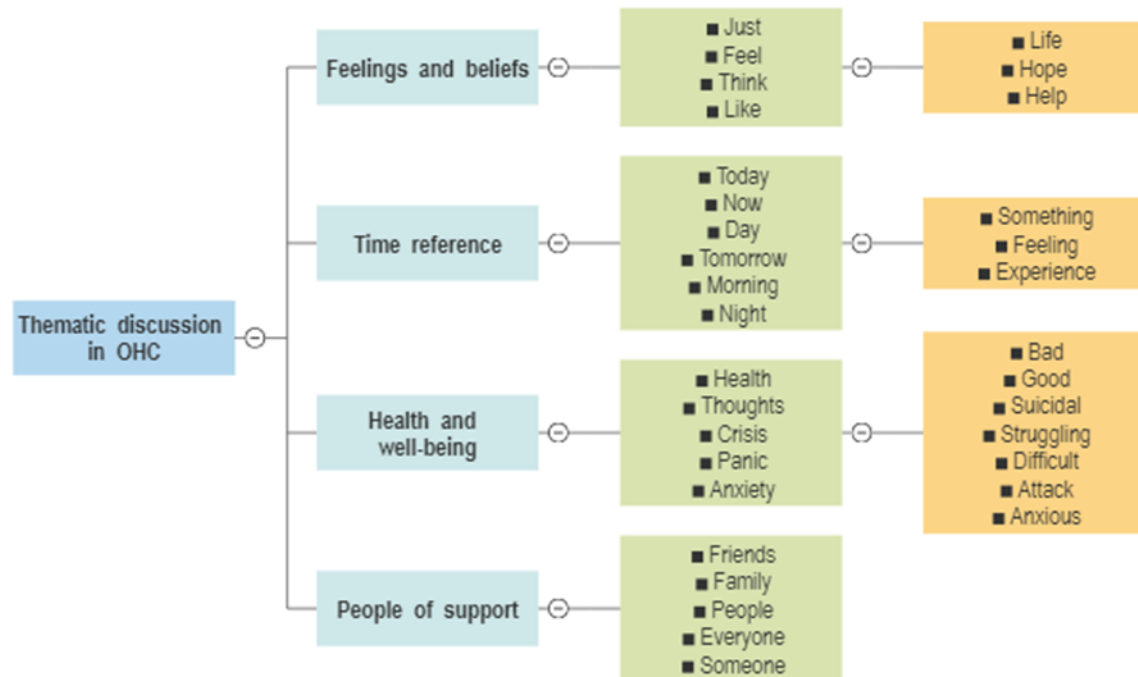


Figure 3. Thematic clusters

DISCUSSION AND CONCLUSIONS

The aim of this study is the explorative investigation of data retrieved from the online discussion of members of an online health community to understand the types of support that stigmatized patients are looking for when in the context of the OHC and the thematic discussion taking place within the community. While this study is explorative in nature, it is part of a broader research that will assess satisfaction and predict future engagement, as well as develop recommendations for raising benefits from participating in online health communities for a specific group of patients, the stigmatized patients. A total of 513 posts were carefully analyzed to depict the request for support in the community of interest. From the analysis conducted in the OHC and the communication generated by stigmatized patients it has emerged that the communication is mainly directed in four macro themes. Accordingly, stigmatized patients in the OHC of investigation discuss on:

- 1) feelings and beliefs
- 2) time reference
- 3) health and well-being
- 4) people of support.

Moreover, we identified the existence of different behaviors of the stigmatized patients in OHC, where network and seeking emotional support were the most prominent behaviors suggesting that stigmatized patients consider the online community as an important source for networking and socializing with similar others, and at the same time they find it an important source of emotional support, where they can express their emotions and concerns freely. A deep investigation of each of these behaviors made possible to highlight the emotional characteristics of the request for support. It emerged from the findings of this study that the request for network support is mainly expressed in a positive tone and posts are related to general chatting, sharing activities done in a specific moment in time and discussing on different topics not subject to the health condition they experience. On the other hand, seeking emotional support is mainly expressed in a negative tone, and posts are related to the sharing of negative emotions such as sadness, anxiety, fear, guilt, and loneliness. The findings are useful to understand the request for support and how, starting from the request for support, content is generated by users of the community.

Theoretical implications

The findings of this study provide several implications for theory. To start, the integration of channel expansion theory with expectation-confirmation theory and the integrative framework of this study can be extended to better understand the user engagement also in another context that is not that of an online health community. Considering that mostly research in online communities takes the directions of investigating factors affecting participation, the perspective here developed makes a turn to the direction of understanding participating as a function of confirmation or disconfirmation of expectation, suggesting that a certain alignment is required between what people are looking for in online communities, what they get and how they get it. Moreover, considering the need for a value-added approach to the engagement in online communities, the findings of this study can derive important implications for the literature dealing with value co-creation.

Managerial implications

Since this research is only the first step of a broader research investigating online health communities with the aim to understand the satisfaction of the need for support and future engagement, the development of the coming stages of this research may have important managerial implications. Moreover, the findings of the thematic analysis are useful to develop strategies of achieving high levels of engagement while trying to align the request for support of the members with what they receive from the community. The extent to which participants of online community's experience satisfaction as a function of emotions and behaviors can be useful to tailor strategies for specific

groups of patients that experience one or more of the behaviors of request for support here identified. And considering the achievement of high levels of engagement, not only patients, but also healthcare systems can benefit from maintaining high levels of engagement and raising benefits, as evidence suggests that social support can be an important predictor of health-related quality of life and healthcare service outcomes (Yao, Zheng and Fan, 2015).

LIMITATIONS AND FUTURE RESEARCH

The biggest limitation of this study comes from the lack of an interactive approach with the members of the OHC, that can be useful to test in depth a possible relationship of satisfaction within the community and future engagement in the community. Moreover, in this study it is not possible to understand if the community helped the participants meet their needs and if they found what they were looking for, therefore it does not provide insights on the satisfaction itself. Starting from the research model of this study, the actual paper presents only the first step of a broader research and thus it remains in the request for support, without going further in the analysis of this model. Accordingly, and as mentioned previously in our study, literature and practice can benefit from the developing of the next steps of the model here presented, which are considered for future research. Moreover, the results here presented are not exhaustive of the topic, as the study is limited to a specific online community, dealing with stigmatized patients that have a mental health diagnosis. Therefore, the findings of this study related to the types of support evidenced here may not be generalizable to other communities of support.

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THE INFLUENCE OF STATISTICS TEACHING METHODS ON THE DEVELOPMENT OF STUDENTS' COGNITIVE THINKING

Hindls, Richard¹; Hronová, Stanislava²; Marek Luboš¹

¹Department of Statistics and Probability, Prague University of Economics and Business, Czech Republic

²Department of Economic Statistics, Prague University of Economics and Business, Czech Republic

ABSTRACT

This paper deals with the issue of necessary changes in teaching statistics at universities in the era of huge amounts of data. From the authors' point of view, the current demands on teaching statistics are influenced by at least three factors: large volumes of data of very different origin and quality, increasing possibilities of serial processing of this data, and deepening statistical tools. This text outlines the main principles that should guide the didactics of such teaching: the correct use of statistics, a good knowledge of statistical interpretations, and an environment user-friendly for the big data owners. The paper, based on the authors' long years of experience, suggests where the teaching's focus should be placed and how students should be motivated to be able to not only process big data but also to correctly communicate their output to users. The key aspect is to reinforce students' critical attitude towards data sources, data acquisition methods, and experiment design. In addition, the role of the content of teaching statistics needs to be emphasised in the era of big data so that students are not inclined to use statistical software mechanically and, consequently, so that they can avoid the risks of using software in a blanket way. This text also highlights four potential fundamental errors in teaching statistics. The article contributes to the discussion on the changing role of statistics not only in university teaching but, foremost, in its practical use as well as in adopting the proper level of communications with users.

Keywords: teaching statistics, big data, statistical tools, university teaching.

INTRODUCTION

Unsurprisingly, the current era brings an incredible amount of data and all indications are that this phenomenon will accelerate in the coming years. It is therefore logical that this data is of a different nature, different origin and, worst of all, of very different quality and credibility.

If we divide the user public into those who are familiar with the techniques of big data analysis and have adequate knowledge of statistics (or quantitative methods in general) on the one hand, and those who simply consume "big" data analysis on the other hand, it becomes clear that it is necessary to pay a

great deal of attention to teaching analytical methods, especially to those students who either have no statistical education at all, or have it, but the depth of this education has not reached beyond the basic level. Statistical tools typically represent just a part of their compulsory curriculum because their primary program is the study of another discipline. In this text, the phenomenon of statistical education in the context of big data will be discussed within the framework of university economics majors.

The recent literature in this area is quite varied and often multidisciplinary, as it touches upon many different contexts. It integrates the complex and rich fields of computer science and statistics with educational theory and social sciences; it deals with data mining (including algorithms, software and information systems), artificial intelligence based on functions or logic, deep machine learning and semantic models, but also fake news generators, etc. Such texts are mostly intended for those who already have at least some basic knowledge of statistics and data analysis and intend to pursue the subject in more depth.

BIG DATA - CREATION, PROCESSING AND USE

Should we try to organise the numerous sources in recent literature in a certain way, we could follow one of two approaches: one covers the literature on the genesis of large amounts of data and the initial processing of such data (this will include literature on statistical tools, including didactics of learning these procedures). The second aspect is a look at the applicability and use of big data, especially in the commercial domain (marketing, decision-making support, market analysis, behaviour under uncertainty, etc.). These articles and publications usually assume that the user has already achieved a certain level of knowledge.

Regarding the first aspect, i.e., the didactics of procedures to deal with big data, for example, Mayer-Schönberger and Cukier (2013) discuss an interesting and modern approach, namely, the question of whether it makes sense to work with a sample each and every time. Under certain circumstances, it may be possible to work with the entire target population of data, and thus obtain more valuable and better information than that derived from the conventional sampling procedures. And, on that basis, we can often find completely new and detailed associations. Holmes (2017) argues that big data primarily represents a qualitative change, not just a quantitative one. The educational guidance in his text can be found in the many case studies cited to learn how to store, analyse, and use data. Daniel (2019) understands big data as large and disparate volumes of data generated by humans, applications, and machines, defines the relevant challenges, and consistently connects big data to education. He identifies a wide range of critical issues that presenters and researchers must consider when teaching the topic of big data; defines issues such as the diversity and importance of big data in education; defines the ontological, epistemological, and technical challenges of big data; addresses ethics and

privacy; and highlights the risk following from the lack of expertise of those who deal with big data as part of their academic and research development. A legitimate aim of his work is to raise awareness of these issues and the need for careful teaching in this area.

Kaitlin et al. (2021) point out that, in the era of big data metrics, educators and researchers should also emphasise critical approaches to the nature of data sources (unfortunately, the quality of data sources is often underestimated in current teaching, as we discuss elsewhere in this text). Data sources should be a guide to educators' designing the curriculum, as well as a didactic component of course syllabi.

A stimulating contribution to our topic is the literature search in Quadir et al. (2021), which reviews journal papers on big data research in education published between 2010 and 2018 (143 papers were selected in total). The authors evaluate the papers in three dimensions: (1) educational objectives; (2) educational problems addressed; (3) big data analytical techniques used. Based on the search, they then identify four types of educational objectives with a clear predominance of quality assurance (deficiencies in students' behavioural models, inappropriate course content and teaching strategies, supervision over instructional quality control, and privacy and ethical issues). Quadir et al. (2021) further report that most of the 143 articles evaluated focus on the techniques of data mining in teaching. The visual analysis technique was mentioned in fewer articles. The results of the search also showed that data mining technique in education is the most appropriate technique but not the only one.

Hartog (2016) points out that data itself is of limited value. The real transformation of education systems lies in turning this data into actionable intelligence, that is, into knowledge that enables students and other stakeholders to act effectively.

Williamson (2017) considers Education Data Science as an emerging methodological field that has the technology-driven algorithms needed to generate insights and knowledge from big data education. This article cites analyses by the Lytics Lab, Stanford University's learning analytics research and development lab, and the Centre for Digital Data, Analytics, and Adaptive Learning, as well as the big data research centre of the Pearson commercial education company. These institutions are exploring new forms of learning and research using big data and algorithmic methods. Their central topic is the tendency of data science moving out of academia and into the commercial and profit-making sectors. The paper explores two aspects of this problem: (1) how education should be conducted in relation to algorithmic methods and data epistemologies, and (2) why political economy is shifting as knowledge production becomes centred on data-driven commercial organisations.

This brings us to the second area of big data topics in the literature, namely, its utilisation. Marr (2021) discusses the social and technological forces implicit in big data that underlie the rapidly advancing changes, and examines the impact of these changes on key industries (consumer trends, firms' product and service delivery strategies, the impact of data on fundamental trends in business operations that

change behavioural patterns in business, the impact of data on automation and robotisation of business operations, etc.). Big data is intended to serve a better understanding of customers' behaviour and preferences. He notes that corporations are looking to augment their traditional data sets with social media data, browser logs, as well as text analytics to get a more holistic picture of their customers. He also gives examples of how big data can be used to strengthen influence on the electorate and the outcomes of elections, and for political marketing.

Hendl (2021) discusses the impact of big data, open data and the corresponding data infrastructures on business organisations, public institutions and the commercial sphere. Clegg (2017), in turn, provides a view of big data affecting the running of society in general, both directly in our lives and indirectly through companies whose goals and practices influence the subjective attitudes of individuals. Maldonado Ascanio and Balbastre-Benavent (2018) emphasize that professionals competent in work with big data sets are a necessity today, managed by social networks and smart systems. Gibilaro et al. (2019) confirms the importance of working with big data sets for the success of modern companies and shows that data analysis is currently a key asset of every product and service, and managing of the big data sets and understanding their outputs has a major impact on business performance.

Therefore, it is necessary to pay close attention to the ways of teaching data work at universities. The aim of the article is to point out the basic problems in teaching statistics in the era of big volumes of data and show where the focus of teaching needs to be placed and how to motivate students to not only process big data but also to correctly communicate their output to users.

DATA PROCESS – DIDACTICS OF TEACHING

The old truth says that bad information is the second worst thing. Only the decisions we make based on it can be worse. In other words, if we don't have good data sources, there is little point in analysing the data itself. Still worse are situations in which we do not even know what process generated the data, where it was generated, and what the nature and origin of the data is. Yet it is often the case in the educational process that data generation is not given much attention. Was the data obtained through exhaustive investigation? If so, was such an investigation also comprehensive? Or does the statistical set obtained contain a large and uncontrolled proportion of "non-response"? If the survey was not exhaustive, are the units really selected in a manner appropriate to the analysis in question?

And even less attention is often given to analysing the design of the survey and how the data was actually collected. Was there a data plan? Or was it just based on spontaneous responses from a probably very unrepresentative sample? Was the loss of representativeness of the sample deliberate or spontaneous? Did we also pay enough attention to the circumstances: who collected the data and how, what the statistical features are of the data being investigated, and what the primary purpose of the

analysis was in the first place? Thus, was the data not generated rather spontaneously and are we not about to analyse something that does not and, given the quality of the data acquisition, cannot have much explanatory power? (cf. Gelman 2012).

We need to instil this approach in students from the very beginning. It is true that if we do not answer these questions thoroughly and in time, and if we do not make corrections in the information, i.e., a kind of tidying up in the data warehouse, we will hardly reach a solid analysis and appropriate use of the information contained in the data. And so it sometimes happens that instead of "cleaning" we usually move too quickly to exploratory data analysis, then to confirmatory and inferential data analysis, etc., without having built a solid data or rather information foundation.

There's only one thing to do here. Carefully and in detail create a diagram of how data can be generated and instil it in the audience so that this knowledge becomes a natural part of not only their knowledge, but, more importantly, their thinking. Often, non-statistician users are self-armoured by the presumption that they can actually "order a turnkey sample survey" from a specialised firm without knowing what they have actually purchased. Or they may analyse the data using "turnkey, specialised software", i.e., apply the black-box method. Hardly anything could be worse than that.

The very first, i.e., the primary dividing line, is whether the data is presented by public institutions or the private sector. That is, whether it will be aggregated or averaged from the outset, or whether we are dealing with individual data. Either way, students usually know little about how the data was produced, or what the survey methods are in official statistics or in private companies. And why these methods are the way they are.

As is well known, the sample-survey data approach is not dominant around us today. Yes, we live in a world of judgement forming and it is only going to get worse. Therefore, students need to have the difference between representative and non-representative sampling explained to them – with the utmost care, of course. And then different types of sample surveys should be explained, with equal care and level of detail, whether they are conducted by public or private institutions.

Then, after an initial critical assessment of the data collection methods, the basics of statistics usually come into play. The basic course is undoubtedly the gateway to and a showcase of the world of statistics for the vast majority of university students. And it is also a necessary starting point for all further teaching of specific parts, i.e., including the analysis of large volumes of data. It is true that elementary university teaching for non-statisticians can increase the students' interest in statistics; or, on the contrary, it can very soon discourage them from statistics, perhaps even for ever. If that is the case, the role of big data in today's world will definitively be hidden away from them. The introductory courses are therefore intended to show, in a comprehensible way, all favourable aspects of statistics. On the other hand, they must not slip into cheap pandering. However, a trap lies in wait for lecturers and

students right at the start here as well. The large volumes of data on the one hand and the relatively easy availability of statistical software for calculations on the other hand, often subconsciously, lead to a tendency not to pay adequate attention to the technical side of a basic statistics course and to slip quickly into calculations obtained by effortlessly clicking buttons on a keyboard.

Unfortunately, it is still the case that statistics, which is the natural vehicle for basic analysis of big data, is generally not very popular among university students – neither in the social sciences, which we have a lot of experience with, nor in the natural sciences and engineering. All of this leads to the fact that statistics is not used in practice in a way that would be consistent with its potential. And when it is, its use tends to be drab, if not entirely incorrect. In the era of big data, this risk is even higher because the processing and evaluation of such a large volume of data is also numerically and ontologically demanding, and may therefore lead to an unacceptable mechanical use of software.

This is where the role of teachers in university statistics comes into play. Only they and the quality of their teaching can prevent students from the mechanical use of software and incorrect applications of statistics. This is especially true for those who do not study statistics as a major. Such a conclusion is based on our long experience in economics (cf. Hindls and Hronova 2015).

Technical aspects of teaching statistics

The first thing a student usually encounters in lectures is the technical and formal form of statistics. Logically: it is impossible to build the apparatus of any scientific discipline without its formal apparatus. It happens rather quickly, usually right at the introductory lecture. That is, long before the student even begins to perceive what statistics actually is, what possibilities it has (or, on the other hand, does not have), how statistics looks at the world around us, etc. This is wrong.

Students must first be told about the possibilities of statistics. Only then should the formal apparatus come. The role of the technical side of statistics is even more accelerated in the era of big data, right at the very beginning, because it is accompanied by utilisation of algorithms and computers. There is no doubt about it. But in the introductory lectures one must not leave aside what statistics actually is, what it can and cannot do.

But in reality, especially with large data sets, students are confronted with computational demands too soon. Therefore, they soon start to look, even unconsciously, for support in the machine-like, often mechanical handling of data. And this is a trap. They initially know little about statistics and try to get around these shortcomings by using mechanical software. To add to this, the usually quite well-known fact plays no small part here, namely, that a vast majority of students coming to universities know very little about statistics. What is more, many of them don't even like mathematics (cf. Gattuso 2011).

Our experience shows that the primary focus, even with (or on) large data sets, should therefore be on showing students how and where statistics is used through practical demonstrations and real examples

based on large-scale data – examples of both correct and incorrect use. Even a negative example, a negative experience, is valuable. These examples should come from different areas that are close to the audience's everyday life. We encounter quite a few of these in our everyday life. In the economic sphere, it could be, for example, an illustrative talk about how inflation devalues our savings; and also show where the data for compiling the consumer price index, household data collection, scanner data, the consumer basket, etc., is taken from. Or how the average wage is determined and what meaning it conveys (or rather, does not convey). Students will also often be interested in an introductory, non-committal talk about consumers' and other preferences in the population, accompanied by a critical assessment of their statistical validity and credibility. Discussions on the importance of statistics and probability in medicine, demography, etc., can also be interesting. All this can be handled without formulae and without formal apparatus at the outset, even without calculations, or with pre-prepared outputs. The listeners are thus, gradually and smoothly, drawn into the nooks and crannies of statistics.

DATA VIEW ON THE WORLD AROUND US

As has been said, the technical side of statistics is, unfortunately quite often, given premature priority in teaching, and little emphasis is placed on the fact that the world of data is primarily a vision of the world around us. It is an imprint of the world manifested in data, graphs, tables, and characteristics. And it is statistics that seeks to uncover the hidden and uncertain features around us, and has the best tools for doing so among other disciplines. It tries, for example, by way of Exploratory Data Analysis, to reveal inner connections of what lies on the surface of the data. So why not start with the basics of data analysis, the statistics' performance in surveys and its way to the survey respondents, the risks of sample-survey instruments in society, etc.? The quality and possibilities of data are thus highlighted, and features hidden in the data begin to be revealed. After these prerequisites have been clarified, the time comes to delve into the technical ins and outs of data processing.

Students at PC displays as a trap in the beginnings of statistical education

Some students may, soon after they start the course, even get an impression that statistics is related to computer science in one way or another. At some (usually very early) stage in the course, they are introduced to efficient and effective statistical software that can compute almost anything. And they are served with a plethora of pictures and graphs, often more suggestive than would be appropriate. Indeed, students are quite often reassured at the beginning of the course that the potential computational complexity will be quickly mitigated by the use of computers as regards some of the statistical parts in analysing the large amounts of data that await them (Hindls and Hronova 2005b). This is bad news for understanding the importance of big data and statistics in general.

It is true that the possibility of industrial use of computers, which became widespread in the last quarter of the last century, brought about by the easy availability of personal computers, has helped statistics a lot. And it has also helped its teaching. But at the same time, it has subtly begun to deepen the pedagogical trap of statistical teaching. What is this trap?

Teachers know that computational demands and large volumes of data often discourage students and put them to sleep during lectures. Therefore, they try to alleviate this situation by offering the capabilities of statistical software as a crutch, believing that this will make the audience feel that even difficult parts can actually be easily handled with simple control schemes hidden in the software. The opposite is true. In fact, students very soon start to see computers as an escape from the difficulty of statistics, and rather begin to believe that they will not have to struggle with statistics anymore, because the software will solve it for them. However, with this approach to teaching, the content and concept of statistics at this point slowly begin to slip away from the students. Software can only help those who have already more or less penetrated the secrets of statistics and have mastered quite a lot of it. Teaching statistics on computers is no substitute for a lack of statistical thinking.

The consequences of a strong emphasis on a computer-based approach to the basic teaching of statistics are often fatal. Often a grotesque caricature of statistics, it is not infrequently the case that a student who has already taken a basic statistics course is suddenly forced to use statistical methods in other, non-statistical subjects where some data analysis is required. In such situations, some students mechanically apply the software and often calculate something that does not make much sense or cannot be interpreted at all.

This situation (which, of course, has been caused by lecturers' mistakes at the first place) has miserable consequences. Later on in practice, graduates quite often overlook statistics and hardly ever apply its approaches, especially to data. And this is perhaps an even better case. It is even worse when they start using statistics incorrectly, without knowledge and superficially. But the result of either of these approaches is a lack of much needed concrete reasoning and decision-making support. Instead, what we see in debates are instances of vague 'drizzling', in which the lack of facts is camouflaged by a confused and unsubstantiated rhetorical exercise. And this phenomenon is undoubtedly not encountered only in economics.

Errors in education

In many years of teaching statistics in introductory courses for students of economics, we have observed certain downright pedagogical errors in lectures and seminars. We have summarised them in detail in Hindls and Hronova (2005a).

In our experience, there are four critical points. The first critical spot, which quite often discourages listeners, is the interpretation of variance – not its computational side, but its conceptual and

interpretive side. The next critical place is the transition from the definition of probability and random experiment to random variable.

The third critical point is due to the large number of confidence intervals and, above all, the interpretation of an almost infinite number of different tests of statistical hypotheses. The fourth point of contention is the inclusion of confidence intervals and tests in regression and correlation. Listeners suddenly find it quite difficult to understand, often tired of the lengthy explanation of standard errors, variance of residuals, etc., what the relationship of this part to descriptive regression and correlation actually is.

Underestimation of these four points (and perhaps some others) has serious consequences in teaching and can completely obscure valuable information that is hidden in large data sets. And from there, it is not a long way to let the laboriously collected data end up in data warehouses or rather data graveyards.

CONCLUSIONS

There is no doubt that the rapidly evolving world of data, technical means of data transmission, and methods for data processing is placing to a large extent entirely new demands on the teaching of methods, especially methods of statistics, cognitive disciplines, and artificial intelligence.

These rapidly evolving elements of university teaching must instil in students, to a much greater extent than ever before, the principles of data science and artificial intelligence, including algorithms for data mining and systemisation. Its fundamental starting point is that of acquiring the basic knowledge necessary to use data in a transparent, highly analytical and responsible way, with particular emphasis on its academic, social and economic relevance.

It turns out that, in many respects, teaching has not much changed compared to the period when the social environment suffered from a lack of data and information rather than from an excess of it. Now, however, the situation is quite the opposite: students must, based on their university training, learn to understand the key role of data and algorithms for its analysis. Tools, information technologies and techniques of the analysis must facilitate the management of data and algorithms.

In a didactic and propaedeutic direction of research, we would mainly like to move towards reconciling the technical aspect of processing and using large volumes of data with the motivational aspects, so that students understand the role of statistical methods in data analysis, learn to distinguish between the importance of exploratory and confirmatory data analysis, and to be able to later interconnect elements of artificial intelligence, machine learning, semantic technologies, knowledge graphs, etc. This is the gateway to the world of big data.

To do this, it is necessary to continue with patiently revealing the basic principles of teaching statistics, to increase the motivation of students to embrace elementary teaching, and to teach them to distinguish sensitively between when the good knowledge of statistical methods and techniques is a welcomed help in the analysis and when, on the contrary, the machine processing of data and its appropriate interpretation plays the main role. Our experience has shown that these two approaches are not mutually exclusive alternatives in the process of processing large data volumes, but rather necessary components of it.

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REAL-LIFE BRANDS IN COMPUTER GAMES AS A PIECE OF ART OF MODDING COMMUNITY

Hofman-Kohlmeyer Magdalena

Department of Organizational Relationship Management, University of Economics in Katowice,
Katowice, Poland

ABSTRACT

Previous research confirmed influence of product placement in computer games on brand reception. Present paper contributes to existing knowledge in the field of brand communication in virtual world. It investigates brand introduction into game environment by players. Presented researches are aimed on describing modding community as a source of real-life brands in computer games, assessing the scale of the phenomenon and its attractiveness from the point of view of players. From August 21, 2018 to December 5, 2018 the author carried out 20 in-depth interviews (N=20) with active players and online survey in June 2020 (N=1157). During the interviews, respondents accurately described three sources of brand in games, namely: placing brands by game developer, traditional product placement and brand introduction by game modding activities. They described some example of branded game mods. A results of online survey showed that 53% of players created or downloaded a mod and 69,2% of them created or downloaded a branded modification. Players also indicated the best remembered brands from the game and 28,2% of them were introduce into game by modding community. Moreover, adding the brand to the virtual product made it more attractive than if it were anonymous for 67,1% of players.

Key words: brands, computer games, game modding, user-generated content, value co-creation

INTRODUCTION

Companies make efforts to create strong brand to gain competitive advantage on the market. Brand allows product's differentiation from competitors. Brand also generate an association with product attributes, quality or value and simplify consumers' decision making (Bogonondo and Artanti, 2019). Customers who are loyal to the brand are willing to pay more for branded products because they perceive special value. The value could be related to greater brand trust and perceived brand reliability (Chaudhuri and Holbrook, 2001). Loyal customers are motivated to cooperate with companies and less susceptible to the influence of competitors (Hur et al., 2011).

The rapid development in an information technology and the emergence of new trends in consumer behavior contribute to continuous transformations in the theory and practice of marketing (Mitreaga, 2013). As De Pelsmacker et al. (2019) noticed, promotional activities in traditional media struggle with problems such as too much obtrusiveness of the message, avoiding advertisements and doubts about their effectiveness. Combining brand communication with entertainment elements, where the boundary between them is difficult to define (branded entertainment) have gained popularity (Winkler and Buckner, 2006). Marketers are determined to strengthen consumer memory by placing brand in popular media, transmit product information and building brand awareness (Bogonondo and Artanti, 2019). Growing ranks of enterprises use virtual reality on marketing purposes. They believed that computer games can enhance customer experience with a brand. Customer experience is simulated by integration branded product in virtual environment where consumer can interact with it in a playful way (van Berlo et al., 2021). Brand placement can make the game more realistic and branded messaging is not intrusive in comparison to traditional advertising (Aliagas et al., 2021).

In available literature, it can be found various ways of integrating brands and computer games (Steffen et al., 2013). One of them is a game type known as *advergame* (Lee and Cho, 2017). The term “advergame” consist of two words, advertisement and video game (Peters and Leshner, 2013). *Advergame* is specially designed to promote a brand, product, service or idea. It represents a very simple game in terms of the appearance and rules of the game and short duration. *Advergames* are usually available free of charge via various platforms such as corporate websites, e-mail, and mobile phones (Lee and Cho, 2017). An example is *advergame „Amazing Crisy”*, posted on the website of the manufacturer of M&M's chocolate. The player's task is to collect as many chocolates as possible. For each chocolate the player receives points and when he collects all of them he can get to the next level of the game (Lee et al., 2009).

The other way of integration brand and computer game is *in-game advertising*. *In-game advertising* is when a brand was embedded inside digital environment of the existing game. The advantage of this form of promotion is that the player cannot avoid it as well as the long shelf life of a single game (De Pelsmacker et al., 2019). An example of this method of integrating the brand and the game is the Burger King chain appearing in *Need for Speed* in the form of real restaurants near the road (Marut, 2015). *In-game advertising* appears very often in the background of the game, in the form of banners or billboards (Winkler and Buckner, 2006). During an election campaign in 2008, billboards promoting the candidacy of Barack Obama were featured in *Burnout Paradise* and numerous sport games such as *EA SPORTS NBA Live 09*, *NHL 09* and *Madden 09* (Batra, 2009).

Brand placement in computer games attracted attention practitioners as well as academic research. Present literature offers some research result pertaining to psychological and behavioral brand response (Herrewijn and Poels, 2017). Scholars repeatedly confirmed impact of brand placement in computer games on brand attitude (e.g. Mackay et al., 2009; Vashisht and Chauhan, 2017), brand memory (e.g. Charlton, 2018; Herrewijn and Poels, 2018) or consumer behaviors (e.g. Gabisch, 2011).

It is also worth paying attention to the methods of financing brand appearance in computer games. More often, companies need to pay game producers to place their products in the game's environment. Sometimes game developers need to pay when they want their products to be used inside the game. It frequently happened in the case of brands from the automotive industry (Kureshi and Sood, 2009).

In present paper the author describes the phenomenon of placing brands in virtual environment by players communities. Players create game modifications, known as mods, which alter pre-existing games (Sotamaa, 2010). These modifications frequently contain a branded content. The purpose of presented research is describing modding community as a source of real-life brands in computer games, assessing the scale of the phenomenon and its attractiveness from the point of view of players. It is a part of the research project titled "Brand introduction into virtual worlds of computer game as a form of customer engagement," which received funding from Poland's National Science Centre (Preludium 17, 2019/33/N/HS4/01530).

THEORETICAL BACKGROUND

Game modding can be define as a practice of modifying an existing game by external developers or game enthusiasts. These game enthusiasts create so called "mods", modifications to an existing game, which add new or updated content to the basic version of the game (Lee et al., 2020). Mods are recognized only if they are made by game players and other users, as opposed to professional developers (Wells, 2018). Game modding change the way the game is played by altering, adding to or deleting video game code (Wallace, 2014). Unofficial modifications allow to maintain playing time for longer than it was primarily intended to. For example, the Skyrim game received new content six years after was released because of modding community (Lee et al., 2020). Creators share their works on many online platforms, such as Nexus Mods and Steam Workshop. The other players can freely download modifications. On streaming platforms like YouTube gaming section and Twitch creators broadcast their gaming experience. They also take part in discussion on comment section or on life chat (Poretski et al., 2019).

Unofficial mods frequently contain some additions such as example clothing, equipment, hair styles, expand race and gender options. Sometimes modders develop new stages and environments or update graphics in game (Bohunicky, 2017).

In some cases, game modding provides a new standalone game. The perfect example is Defense of the ancients (Dota) which is a modification of the Warcraft 3 game. After 5 years on the market, the Dota still has an approximately 450 000 players a day. It is impressive number because the basic game Warcraft 3 was released more than 16 years ago (Lee et al., 2020).

Recently, a few scholars investigated players motive to engage in such difficult and time-consuming game modding activity (Thiel, 2019). According to Poor research from 2014, the vast majority of players (90,9%) engage in creation of mods for having more fun with games or perceive the process of modding as a fun activity (89,2%). Players frequently (86,4%) produce modifications to make the game better for themselves. One of the most important motives (84,6%) is also a need of being proud of the work made. Meaningful percentage of creators (72,9%) make the game better for other players. Game modding is treated as a challenge (71,1%) and is a topic of discussion with friends (48,6%). Much less of players (27%) create game content to improve the game for the game developers or they are interested in getting a job in the gaming industry (20,7%) (Poor, 2014).

According to research carried out by Bilińska-Reformat et al. in December 2019, individual motivations to use game mods and create mods are little different. The motives of mod users can be grouped into three following categories: perceived enjoyment, concentration, engagement and social affiliation. Perceived enjoyment is related to motives to make the game more enjoyable. Players want to adjust the game to their needs and sometimes they like get something new in old game. Concentration category contain players' motivation to spent time on interesting activity. Engagement and social affiliation includes a possibility to play with others (multiplayer version of game), participation in modding community, exchanging opinions and recommendations.

The motivation to create mods were divided on four categories: perceived enjoyment and pride, creativity, epistemic curiosity, engagement and social affiliation. Perceived enjoyment and pride is related to satisfaction from creation something unique that has been appreciated by others. Creator is particularly proud when his work is used by the producers in the official version of the game. Creativity category contain motivations of players whose passion is to create. They develop their creativity and inventiveness by making mods. Epistemic curiosity concerns learning new skills, especially in the field of programming and graphics. Some players admitted that making mods is a good to start to producing games and start a career in gaming industry. Engagement and social affiliation refer to players' need to belong a certain community. Creators want to stand out in the

community sharing their own work in various online platforms where visitors can evaluate, recommend and everyone starts downloading it (Bilińska-Reformat et al., 2020).

From August 21, 2018 to December 5, 2018 the author carried out 20 in-depth interviews oriented on brand placement in computer games. The participants of the study were adult users of three chosen computer games (The Sims, Second Life and Euro Track Simulator 2). Despite the issue of modifying the game content by players was not the main subject of the research, the author gathered valuable material in this regard. Participants admitted to engaging in producing diversified game elements stamped with brand logotypes. These behaviors took various forms of placing inside the game branded products, e.g. clothes or accessories for avatars, to creating whole extensive add-ons. The author decided to expand the analysis of the interviews with an additional issue, namely game modding. It was also necessary to carry out a literature review in this area.

The author conducted a literature review pertaining to game modding phenomenon and brands, in January 2019. Analysis included publications that have appeared between 2000 and 2018. For searching an articles the author chose ProQuest base and used following key words: modding AND brand OR "product placement" OR "brand placement" OR marketing, "game modding" AND company OR "customer engagement", "player production" AND brand, "co creation" AND brand AND game, "user generated content" OR "player generated content" AND game AND brand, "value co creation" OR "value creation" AND game AND brand. Firstly, obtained result was limited to full text, reviewed papers. Secondly, nonscientific papers were excluded. After that, the titles and abstracts were analyzed.

The current player is not only a consumer but also participates in the process of value co-creation (Ranjan and Read, 2016). The concept of value co-creation play an important role from a marketing perspective. It refers to creation a value in-use by consumers and continuous cooperation with organization. Consumers play an active role in producing an object of their own consumption (Pongsakornrunsilp and Schroeder, 2011). In the case of game modding, value co-creation pertain to cooperation between players and game developers. Player contributes to product development in engaging way (Ranjan and Read, 2016). According to bibliographic analysis, the growing ranks of academic are attracted by the concept of "value co-creation" in general. The results show figure 1.

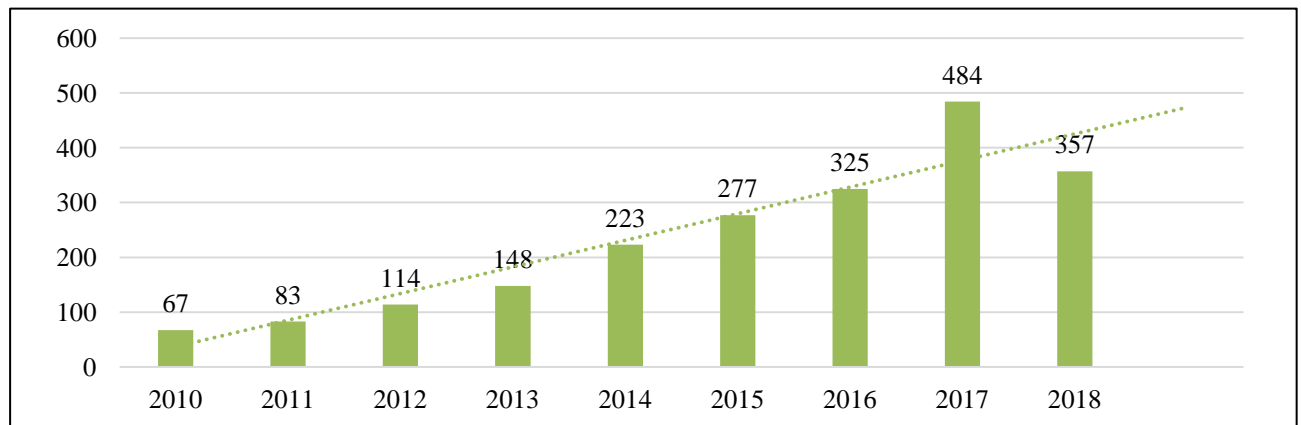


Figure 1. Number of scientific publications obtained using “value co-creation” key words.

Mods, unofficial add-on, material placed in some platform by its own end users called in literature as user-generated content (Luca, 2015). User-generated content is a process where ordinary people are able to participate or contribute to some kind of publications (Manosevitch and Tenenboim, 2017) created outside the realm of a profession and professional routines (Naab and Sehl, 2017). It can take the form of text, image, sound or video (Arnhold and Burmann, 2010). A number of publications regarding user-generated content in computer games is presented in figure 2. Although there are some fluctuations in the number of records across subsequent years, however the growing trend is clearly visible.

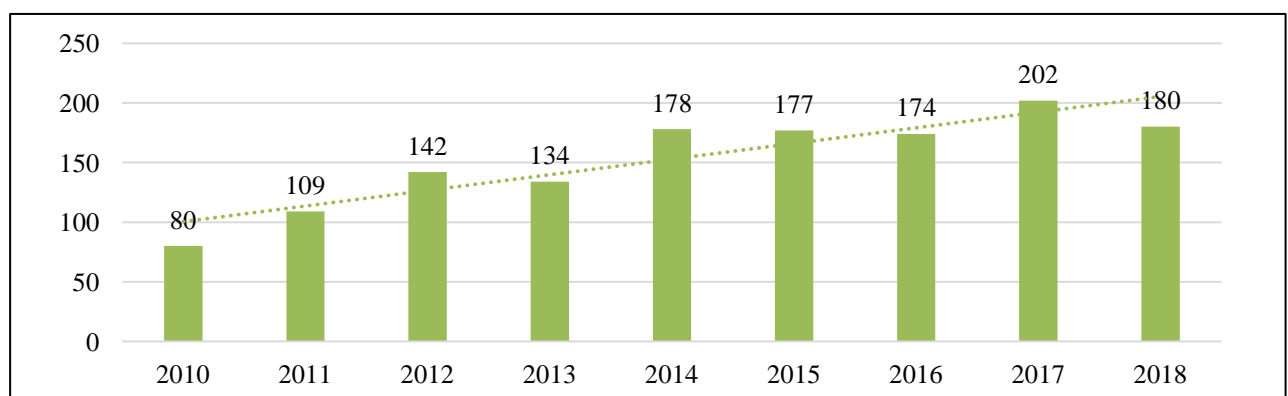


Figure 2. Number of scientific publications obtained using “user generated content” + “games” key words.

According to literature review, there is a continuous growth of scholars' interest in the concept of value co-creation and user-generated content. Probably there is still a fragmented knowledge in this area and need of further research. Brand introduction into computer game environment with use of game modding activities is definitely related to those concepts; therefore the author used it in selecting key words for article searching.

Analysis of scientific publications, collected and selected using the criterion of inclusion and elimination (Czakov, 2011), allow to find some research regarding to game modding and prosumption, game modding and communities, game modding and value co-creation. The author did not identified the research investigated value creation as a result of cooperation players and brands used in game mods or game modding and brand communications. The analysis leads to the conclusion that there is a research gap regarding the use of branded game modifications by players in the field of marketing communications and branding.

Despite the lack of knowledge of brand introduction in computer games by modding community, several scholars indicated that some product placement method can involve player's active role in appearance of the brand. They are also inferred that this involvement may influence brand reception. Yet in 2002, Nelson pointed out that some brand placement can take place because of player's willingness to adapting the game to their personal needs. For instance, in game Nascar Racing 3 users can personalize their racing cars by repainting them in freely chosen pattern containing brand logotype and brand colors (Nelson, 2005). In FIFA 2001 players can choose soccer t-shirts with club crest and sponsor advertisements (Nelson, 2002). As Nelson suggest, this type of placement forces the recipients to become more involved in creation of brand image within the game (Nelson, 2005).

In 2015, Siemens, Smith and Fisher paid attention on brand placement strategy where player have possibility to control the appearance of the brand in the game. They conducted an experiment aimed on answering a question how active control over brand placement impact on brand recall. On the experiment purposes, the racing car games were prepared. Some of the brands in the game appeared due to the player's choice, some were placed on billboards in the background of the action. After playing the game, respondents were asked to indicate what brands they can remember. The experiment shows that brands introduced into the game by players were better remembered. Siemens, Smith and Fisher listed several advantages of active player's control over brand placement. Firstly, this type of placement gives less known brands a chance to be exposed longer and get better results. Second, a high degree of player control may result in a greater return on investment in product placement than in the case of passive placement. Third, the ability to choose a brand makes the brand important in the plot of the action. The recipient of the message automatically encodes actions and moves commercial content from a secondary role to a primary task (Siemens et al., 2015). The more resources (e.g. time, money) consumer invests in relation with a brand, the greater is his attachment to the brand and willingness to maintain this relations (Sung and Campbell, 2009). Despite some scholars noted that some brand placement method are based on players' control over brand appearance and can influence brand response, they still consider brands introduced into game plot by companies. The

type of product placement described by Nelson as well as Siemens, Smith and Fisher allow users to choose brand from brand set provided by game producers. The player's choice is not unlimited like in case of game modding.

IN-DEPTH INTERVIEWS

Research method and sample

Presented results of in-depth interviews constitutes a part of broader research aimed on brand placement in computer games. Although investigating the modding phenomenon was not a primary goal of interviews, respondents brought up an issue of creating and sharing brand modification. In the field of game modding, the purpose of in-depth interviews was describing three sources of brands in computer games, especially modding community. In addition, in-depth interviews constituted the basis for the preparation of the questionnaire for quantitative study.

From 2018 August 21 to 2018 December, the author carried out a 20 in-depth interviews amongst adult polish players. Participants need to had contact with game at least six months before the research. On the research purposes were chosen three following computer games based on simulation of real life and strolling virtual world: The Sims (4 players), Second Life (11 players) and Euro Track Simulator 2 (5 players).

Invitations to the study were send amongst participants of particular games' communities on social networking site Facebook. The author tried to diversify the research sample in terms of age, gender, and place of residence but the final composition of the research sample depended on the willingness of players to participate in the interviews. Interviews took place electronically and in person.

Amongst respondents 12 participants were men and 8 were women, 12 had higher education. Vast majority belonged to the age range between 20 and 30 (figure 3). The sample consist of blue-collar workers (e. g. production worker, car mechanic), white-collar workers (e. g. IT specialists) and also students. Participants come from small and large cities.

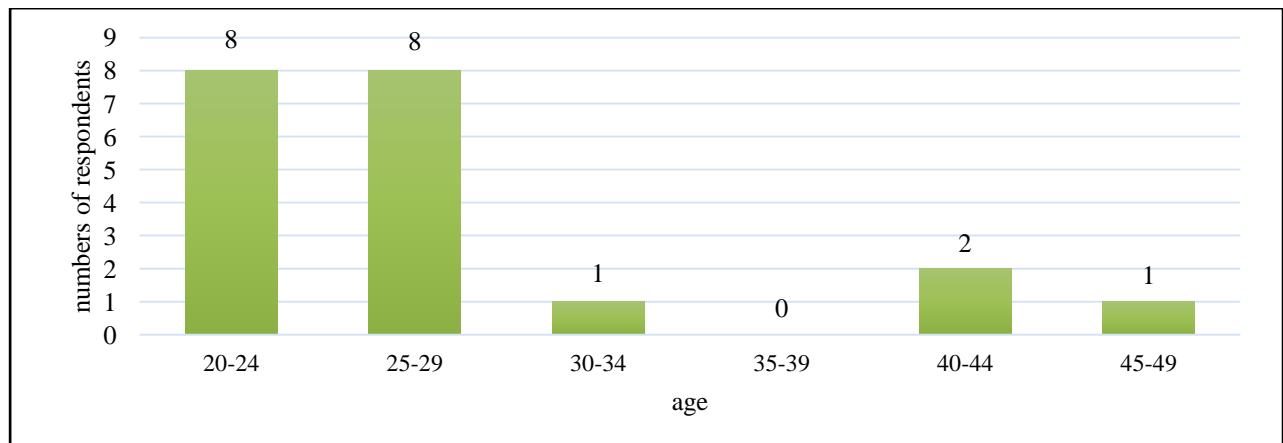


Figure 3. Age of respondents.

The author conducted in-depth interviews according to a previously prepared scenario. Each interview lasted approximately 30–40 minutes and then were recorded and transcribed. In order to obtain a high level of accuracy, as suggested by Miles and Huberman all of the statements were written down in detail, including the breaks for reflection and incorrect statements such as incomplete sentences, twisted words (Miles and Huberman, 2000). Afterward, interviews' contents were coded according to a prepared set of codes. Each code was described by a symbol and name and definition. Appropriate codes were assigned to particular statements or even longer fragments of text. After the contents of interviews were coded, code cards were created. Each code card was assigned to the characteristics of a different category which constituted a certain set of statements (Konecki, 2000). Because the sample size was small and the interviews were not long, the use of software was not necessary. Based on the code cards, the results were interpreted and final conclusions were formulated.

Research results

According to literature, brands frequently appear in the game because game developers pay for using real life products. More often, companies need to pay game producers to place their products in the game environment (Kureshi and Sood, 2009). As in-depth interviews shows, there is also a third source of brands inside a virtual worlds of computer games.

Conducted in-depth interview confirmed that game developer pay for using real life brands inside the game. The great example represent Euro Truck Simulator 2 (ETS2) where player impersonate in a truck driver and stroll a virtual world by a truck of real life brand: „trucks of seven brands are available in the game (...) all of them are European brands. They are successively Volvo, Scania, Daimler, Man, Mercedes, Iveco and Renault”.

Sometimes, game developer place their own advertisement inside the game environment. When it comes to the ETS2, players could find inside the truck a cup with logotype of SCS Software („we also

have a cup with the logo of the studio, which produces games, and which can also be purchased from them in their shop on the website of the game's producer"). Similarly inside The Sims (TS): "game producer advertised The Sims 3 in The Sims 2, in such a way, that player in The Sims 2 as sim could play The Sims 3 on virtual computer".

The most prevalent form of brand incorporation into computer game is product placement. Product placement is a paid product message aimed at influencing audiences (Tiwsakul, Hackley and Szmigin, 2005). In this case, brands' owners pay for brand appearance to target computer game players. Respondents indicated various examples of brand placement that they met during playing the game, for instance Peugeot in Second Life (SL). Peugeot embedded virtual company's headquarters inside SL: *"when it comes to this Peugeot, Peugeot has made an island, built, advertising island, where only the Peugeots were", "that was the car track on the whole island made, around this island, you could ride in such car".* The use of product placement enable to show players virtual representations of real life models of Peugeot's cars: *"You could see the cars virtually. There were models that they normally offer in the real world", "Peugeot showed up, showed his models, photos... sports, racing, in this way he advertised".* The other SL user mentioned about Play, telecommunication company which buy virtual island on promotional purposes: *„There was a club opened, the music was supposed to be, some social center, that Polish society would come there, to advertise services to buy mobile services", "Generally, Play was supposed to be a meeting place, yes, avatars met, there they sat and talked... it was supposed to be this way. And by the way, it was a nice and purplish place, in Play's own colors".*

The source of brand in computer game is not always clear for players. Frequently respondents were able to describe some brands that they met but they weren't sure who initiated brand appearance. For example, TS players could find inside the game tools to create H&M clothes shop (*"you could also create your own H&M store in this game", "it were like all, with all the accessories came to create this store, or hangers with clothes, just the H&M logotype, some such white colors characteristic for the brand, yes, these are H&M colors. It was also... I don't know, covering walls in this colors, etc. So that this store really looked like H&M"*). TS also offer some branded items: *"in the second part of the game they were a nice reference to this real life, especially since we could go to IKEA and buy a sofa, the same as in Sims and it was so funny", "with this add-on, you could open your own IKEA store and sell IKEA furniture there", "you could buy for your house, sit down on it, on these furniture".*

According to respondents, players also introduce brands in computer games. Frequently computer savvy individuals become an amateur producer: *"These are normal users, normal users like me. I just don't know, they have some predispositions in the direction of e.g. graphics, they create a model, apply some texture"* (SL). Another respondent tried to describe this phenomenon: *"There's a creator out there who has an idea*

that he'll make e.g. pink rims with an inscription of any sort, even Hello Kitty, and he creates something like that in the program and then implements into the game and has some rims or a trailer with Hello Kitty. It is an unofficial add-on, but there are plenty of such things" (ETS2).

Players sometimes introduce into virtual world only single elements (*"color of hair, figure, eyes are chosen, all can be modified of course (...) the additions provide broader range of hairstyles, clothes", SL*) but they also are able to create very complicated and time consuming add-ons like places or buildings (*"there are really many places, there are plenty of places that people do and these places are really beautiful, very realistically shown, as it is in real life" SL*). Players indicated numbers of examples of unofficial add-ons which contains brands. For example in ETS2: *"Good additions are maps of Poland, where there are even advertisements of Biedronka, Lidl, there is quite a lot of it there", „on trailers, for example, there are a lot of real brands, there is Lidl, Biedronka, there is also CCC", "you can even download Jacek Daniels, because there is really a lot of it". In ETS2 modding community create wide range of brands which basic version of the game did not offer: „generally in the game as such there are only restaurants or buildings of type with fictitious names, however, modifications released by game fans add real names", "as modification, for example, I saw McDonalds restaurants, I saw KFC". During the interviews players mentioned about placing petrol station of well-known brands by players ("Orlen, Shell, BP, what else is there... Lotos too, yes, Lotos is either"). These petrol station are usually featured in similar places like in real world (*"It is also as petrol stations, usually on highways, that you can meet these stations"*). Respondents admitted that real life brands rise a game realism: *"it certainly looks more realistic if we see Orlen or McDonald's than some petrol station invented for the game" (ETS2). According to some players brands are desirable inside the game "a lot of people use this Promods because of the real brands are there", "I would love to see real brands in this game, various products, petrol stations or McDonalds, because it is not there, it is not in the official game" (ETS2).**

Some creators are not sure about the legality of putting real brands into the game. Because they afraid about consequences they create brands that only replicate these from real life. Such a custom is especially popular in SL: *"there are many products of this type here, everything that looks very similar, but Armani is not Armani. There are a lot of such products, clothes or other accessories that really resemble those real accessories", "Just like in the real world, there are some counterfeit Adidas".*

Making game mods is not easy and demand advance computer skills. Although not every player can be a creator but creators usually share their works with others: *"there is a huge community in which people do such things, share them, while others download them and test them... there is a special kind of workshop where you can put your stuff, there also are unofficial forums where there is a lot of such things" (ETS2). Players of ETS2 frequently admitted that they visits Steam platform: "This is a Steam platform,*

on which there are different types of games, (...) add-ons for games of all kinds, such accessories, such gaming items can be bought and bought for real money, and for real money this things can be sold".

ONLINE SURVEY

Research method

Considering information gathering during in-depth interviews and lack of knowledge about game modding from marketing perspective, the author decided on conducting quantitative study to investigate the scale of the phenomenon. The following research questions were established:

- 1) What percentage of players use or create unofficial game modifications, so called mods?
- 2) What percentage of modders use or create branded game modifications, so called mods?

Moreover, previous research suggest that players often modify the game content because of the want to make the game better (Poor, 2014), the author formulated third research question:

- 3) Whether introducing the brand to the game makes it more attractive from the player's perspective?

In June 2020, the author carried out an online survey amongst polish players. After the author prepare a research questionnaire, collecting responses were commissioned to a research and development agency. The agency used CAWI method (Computer-Assisted Web Interview) where a research questionnaire is available online for respondents to fill out (Sowa et al., 2015). Respondents can answer a questions at a convenient time for themselves. This survey method allow to collect data cheaper and quicker in comparison to traditional methods (Wójcicki, 2012).

The questionnaire was sent to e-mail addresses from the agency's database of respondents. First, a filtering question was asked whether the respondent was a computer game user or not. Computer game users were asked to participate in the study and redirected to a questionnaire. At the beginning of the survey, the respondents were informed about the purpose of the survey and about the anonymous nature of participation. Secondly, the respondents were asked what games they play, whether they have played this game in the last six months and what age group they belong to. Third, respondents were asked about playing intensity, namely how often do they play the games and how long they play a single game. After that, players answered a questions about game modding. Then, the first stage of survey was ended.

Second stage contain questions regarding branded mods. In order FOR players' branded experience to be fresh, only respondents who played the game within the last six months were qualified for the study.

Stage 1

The questionnaire was sent to the group of respondents and 1557 responses were obtained. To the study the author include only computer game players. Finally, 1157 correctly filled in questionnaires were collected. Among the 1157 respondents 58,2% (673 payers) were females and 41,8% (484 players) were males. The age of players represent table 1.

age	number of respondents
less than 15	1
15 - 18	59
19 - 24	312
25 – 30	295
31 – 40	274
41 – 50	129
51 – 60	65
61 and more	22
	1157

Table 1. Age of respondents.

Because game modding is time consuming activity, the author decided to check the intensity of playing, namely how much time respondents spend playing the games. In order to measure intensity of playing, respondents were asked two questions: How often do you play the games? How long do you most often play a single game? Vast majority of respondents (79,4%) declared playing every day or 2-3 times a week. Vast part of players spend up to 2 hours for average single game. Table 2 shows the results in details, 24 respondents (2%) skipped the questions and gave no answer.

How often do you play the games?	
	number of players
every day	427
2-3 times a week	491
a few times a month	182
once a month or less	33
no answer	24
How long do you most often play a single game?	
	number of players
up to two hours	796
up to 5 hours	295
up to 10 hours	33
more than 10 hours	9
no answer	24

Table 2. The intensity of playing.

After that respondents need to answer a question: *did you ever downloaded or created a mod (unofficial add-on)?* More than a half (53%, 613 players) confirmed that used a mod during playing the game and 47% of respondents never created or downloaded a mod (544 players). Subsequently respondents were asked a following question: *did you ever downloaded or created a branded mod (unofficial add-on)?*

Using branded modifications declared 37% of respondents (424 players), 63% answered “no” (733 players).

There is also one important information here. For both questions the same respondents answered what meant that from 613 modding players 424 confirmed using branded mods. It can be conclude that 69,2% of THE modding community create or download branded unofficial add-ons.

Stage 2

To the stage 2, the author include only respondents who were able to remember at least one brand they met inside the virtual world of computer games. They also should have played these game in the last six months. Participants listed various type of brands, e.g. Adidas, Coca-Cola, IKEA, Nike, Lenovo, MasterCard, Louis Vuitton. Stage 2 of research was aimed on answering a questions, how many best remember brands from the games placed by game modding.

In accordance with the established criteria, 550 respondents were qualified for the study. The sample consist of 344 women (62,5%) and 206 men (37,5%). The majority of them were in a group of age between 19 and 40 (table 3).

age	number of respondents
less than 15	0
15 - 18	34
19 - 24	171
25 – 30	147
31 – 40	128
41 – 50	47
51 – 60	18
61 and more	5
	550

Table 3. Age of respondents.

The intensity of playing show table 4.

How often do you play the games?	
	number of players
everyday	206
2-3 times a week	279
a few times a month	62
once a month or less	3
How long do you most often play a single game?	
	number of players
up to two hours	336
up to 5 hours	187
up to 10 hours	22
more than 10 hours	5

Table 4. The intensity of playing.

Respondents were asked about game in which they met indicated brand. Then were also asked how long they play the game in total. Players' experience with games represents table 5.

	number of players	%
less than 2 weeks or 2 weeks	12	2,1%
more than 2 weeks, not more than 2 months	29	5,3%
more than 2 months, not more than six months	86	15,7%
more than half a year, not more than 2 years	172	31,3%
more than two years no more than 5 years	130	23,6%
more than 5 years not more than 10 years	86	15,6%
more than 10 years	35	6,4%

Table 5. Playing experience.

The author tried to answer a questions, which brands are better remembered: placed by commercial source or placed by players' community. When participants listed some brands, they were asked which brand they best remember. Then respondents indicated one brand. Next, they needed to answer the following question: *how, to your knowledge, did the indicated brand appear in the game?* The results show table 6.

	number of players	%
the brand was part of the basic version of the game	273	49,6%
the brand appeared because I installed the paid add-on	122	22,2%
branded product was made and featured in the game by another player	111	20,2%
I downloaded and installed an unofficial add-on to the game, so-called "mod", which contained the brand	43	7,8%
I myself, or in a team, made an unofficial add-on to the game, so-called "mod", which contained the brand and placed it in the game	1	0,2%

Table 6. Source of remembered brand.

Almost a half (49,6%) of remembered brands were a part of basic version of the game, 22,2% appeared after buying an official add-on. Meaningful percentage of brands (28,2%) were introduce into game by player community. Although only 8% of respondents remembered brands from unofficial add-on (created by themselves or only downloaded) however 20,2% remembered brands featured by other players. Probably not all player are able to create or install a mod but unofficial modification can be seen by many users playing the same game at the same time (multiplayer version of the game or online games). Consequently, brands introduced by one player are visible and remembered by other players. Moreover, brand embedded in the game by traditional product placement and brand introduced by player can be difficult to distinguish.

Players who declared that they remembered brand from unofficial add-ons made or downloaded by themselves (N=44) were asked a following questions: *how often do you install in different types of games unofficial game add-ons downloaded from the web (mods) or made by yourself that contain products of real brands compared to other players?* The results show table 7.

	number of players	%
definitely less than other players	2	4,6
rather less often than other players	16	36,4
as often as other players	19	43,2
rather more often than other players	4	9,1
definitely more often than other players	3	6,8

Table 7. Frequency of creating/downloading branded mods.

At the end of the survey, all respondents were asked if they agreed with the following statement: *adding the indicated brand to the product made this product more attractive than if it were anonymous*. According to results (table 8), the majority of players (67,1%) perceive a branded product inside a game as more attractive than anonymous product.

	number of players	%
I strongly disagree	12	2,2
I disagree	45	8,2
hard to say	124	22,5
I agree	242	44
I strongly agree	127	23,1

Table 8. *Attractiveness of branded product.*

DISCUSSION

In THE presented paper the author investigated the phenomenon of placing brands in computer games by players' modding community. From August 21, 2018 to December 5, 2018 the author carried out 20 in-depth interviews with polish players. During the interviews, respondents accurately described placing brands in virtual worlds by game developer, traditional product placement and brand introduction by game modding activities. Because of limited volume of the article the author could not cite all examples but according to respondents modifying the game content is common and a popular activity. Modding players' create wide range of brands which basic version of the game did not offer. They produce minor game elements such as clothes or accessories as well as whole extensive add-ons. Participants admitted that real life brands rise a game realism. Some scientists came to the similar conclusions, for example Toh and Leng (2014) stated that placing brands in sports video games is more likely acceptable to players because numerous brands are commonly found during real sports competitions (Toh and Leng, 2014). Conducted interviews have some limitations. Firstly, frequently respondents were able to describe some brands that they met but they weren't sure the source of brand, namely who placed the brand inside the game. Secondly, presented interviews were part of broader research and game modding was not the main goal. The author could not prepare appropriate questions at the stage of preparing scenario so the scope of questions was deepened

during the interviews. Nevertheless, gathered information allowed to formulate some conclusions and prepared further quantitative research.

The author made an attempt to verify the research results with the literature. Despite the scholars' interest in game modding and brand placement in computer games as separate issue, literature review indicated that there is a research gap in creating and using branded game mods in the field of marketing communications and branding. Information gathered during in-depth interviews and lack of knowledge about game modding from marketing perspective aroused a need of further research. The author decided on conducting quantitative study, primarily to investigate the scale of phenomenon. In June 2020, the author carried out an online survey amongst polish players. A results showed, 53% of players created or download a mod and 69,2% of them created or downloaded a branded modification.

The significance of the phenomenon is also confirmed by popularity of mod distribution platforms such as Nexus Mod. The Nexus Mods contains over 230 000 game mods and can be proud of community of over 14 million registered users. Every user can download a chosen mod for free. There are also other popular platforms for modders such as Game Modding with available 71 262 mods, Moddb with 18 293 mods and Mods Online with 4 766 mods (Lee et al., 2020). Players can also share and download game modifications on numerous online distribution platforms for PC gaming. There are games to buy, official add-ons as well as game mods. An example is the Steam platform with over 23 000 games available and over 184 million active users (Lin, 2019).

The next stage of online survey was aimed on answering: How many best remember brands from the games were place by game modding? According to results, only 8% of respondents remembered brands from an unofficial add-on created by themselves or only downloaded. However 20,2% remembered brands featured by other players. Unfortunately, there is a some limitation of conducted research. Sometimes, in the case of multiplayer version of games or online games, traditional product placement and brand introduced by player can be difficult to distinguish. Some respondents could not be aware of real source of brands that they saw inside the game. An important information obtained from a conducted survey is also that adding the brand to the virtual product made this product more attractive than if it were anonymous for 67,1% of players. According to survey conducted amongst polish players in 2012, brand placement in computer games are more accepted then traditional advertising. While 80% of respondents showed aversion to advertising in traditional media, only 34,4% prefer games without branded products (Mitreęa, 2012). These results led to conclusion that customer attitude toward brand can be more positive in terms of computer games than traditional media, whether the brand source is commercial or not. Moreover, 58,1% of participants od survey in

2012 stated that brands rise the game realism (Mitreġa, 2012) what is consistent with conducted in-depth interviews findings.

When it comes to the online survey there are also several limitations. The author tried to evaluate which brands are better remembered, placed by commercial source or placed by players. It is a difficult question when the listed brands placed in A game are not known. It could happened that the indicated game contained more traditional brand placement then mods. In this situation it is obvious that players could indicate more brand placement by commercial source. In previous research on brand placement scholars measured brand recall mainly by asking participants to list all the brand names that appeared in the game (Lee and Faber 2007). In this case, it was impossible to list all the brands located in the game plot. However, the presented result can be a first step to better known game modding as non-commercial brand placement method and constitute introduction for further research. Exploring impact of branded game mods on brand memory is a real challenge for future research. It is difficult to find appropriate methods. In terms of product placement in computer games, scholars usually conducted an experiment (e.g. Martí-Parreño et al., 2014). They allow participants to play a specially prepared game and next ask them to fill in a questionnaire or simply asked some questions via interview. Researcher know what brands appeared in the game so they can measure which brand are better remembered. The nature of game modding does not allow to use the experiment in this way.

In the presented online survey, the author asked a question: How many players created or downloaded branded mods? The results could be influenced by other factors. When it comes to players who download and use a mod, they sometimes could not remember that some mods contained a brand because the brand could not be a prominent element of modification or maybe brand was not the main goal of created mods. In literature, prominent placement is defined as placement with high level of brand visibility through its size or position on the screen or placement in central point of game plot. The opposite, subtle placement is characterized by small size or placing behind the central point of action or short time of exposure (Cauberghe and De Pelsmacker, 2010). For example in ETS2 branded petrol station made by players can be called a prominent brand. To compare, map extensions created to expand the landscape of virtual worlds can contain billboards with some logotypes near to the road. These brands can be classified as subtle brand placement. According to previous research on product placement in computer games, brand prominence impact on brand memory, for example Lee and Faber (2007), Peters and Leshner (2013) or Vashisht and Pillai (2016). Previous research also indicated influence of other factors such as frequency of playing the

game, type of game (Yang et al., 2006), game and product congruity (Lee and Faber, 2007), brand familiarity or number of brand repetition (Martí-Parreño et al., 2017).

Creating and placing brands into virtual world of computer games can have a significant influence on brand reception. Previous research on traditional product placement in computer games has proven that brands located in games can shape consumers' beliefs about products (Waiguny et al., 2010), help to build awareness of existing products, impact on brand choice (Dias and Agante, 2011) and influence on purchase behavior in real life (Gabisch, 2011). It suggests that branded mods also influence on companies brand communication. Future research should investigate how modding activities can impact on brand reception by players as consumers.

CONTRIBUTIONS AND PRACTICAL IMPLICATIONS

Presented research contribute to the knowledge of brand communication. During literature review the author did not identified the research investigated branded game mods or game modding from marketing perspective. The analysis suggest that there is a gap in current literature. Presented research also contributes to the concept of value co-creation. The current player is not only a consumer but also participates in the process of value co-creation by cooperation with game developers (Ranjan and Read, 2016). According to in-depth interview players work on placing brands into games. It can be said that they participate in building brand image and influence on brand communication. Further research would allow to better know the role of branded mods and basically individual players' motives for downloading and creating branded game mods.

According to literature, game mods placed in some platform by its own end users is classified as user-generated content (Luca, 2015). According to the author knowledge, the research is also first step in describing branded game mods as branded user generated content.

Presented research also contribute to the practice. Advertisers more often admit that in-game marketing can play a pivotal role in modern communication and is an effective tool that delivers and enhances brand messages to consumers (Hwang et al., 2017). They are encouraged by the number of video games users in the world which was estimated in 2019 at 1.78 trillion people (Szopik-Depczyńska et al., 2020). Computer games can maintain interest of players for longer period of time than traditional advertising (Martí-Parreño et al., 2017; Herrewijn and Poels, 2018). Therefore game modding is important from the point of view of practitioners. They should be aware that brands are introduce into game environment mainly without their consent and can modify the results of marketing strategy and planned commercial communication. Average consumer cannot distinguish real brand message from branded content made by players. Marketers should try to answer an important question to ask, namely if companies are able and how to manage relationship of modding

community and brands. It is also worth to consider how to use the community and created content to benefit the brand. The presented paper provides basic information about brand introduction into games by players and gave an outlook on the scale of the phenomenon.

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THE DIGITAL ECONOMY IN PROGRESS: WITH OR WITHOUT BORDERS?

Hudelcu, Daniela; Onufreiciuc, Raluca

Doctoral School of the Law Faculty, University of Bucharest, Romania

ABSTRACT

In this article, we aim to analyze the usefulness of digital currencies in national economies and the prevailing implementation risks across the “International Monetary System”. This study brings attention to the importance of the technological advancement of digital currencies for achieving unified integrity of trade in the global economic market. This study does not seek to address discussions on the involvement of macroeconomic elements and factors in national economies but presents the existing state of this progress to date, and the salutary effect for the further implementation of digital currencies in all countries, especially developing and less developed countries.

Through the research and theoretical development of the profitable practices of digital currencies, viewed from the perspective of legislative regulation, we aimed to reveal the importance and usefulness of the continued digitization of less developed societies, based on the presentation of digital currencies in the context of supporting governments, businesses, and communities at large. The topic approaches theoretical-descriptive conceptual research from all points of view, both from the perspective of an overview of the present and from the perspective of a global look at the manifestations of e-commerce and digital skills, and why not, generalized across countries.

Overall, we welcome the creation of the theoretical connections for the efficient and productive adaptation of currency exchanges in digital forms, resulting in the full absorption and incorporation of all countries, regardless of their level of development, with the consequences of unifying trade within national foreign economies.

Aim and objectives: The purpose of this study is to highlight the importance of the use of information and communication technologies in the context of the evident progress in this field, with inevitable and concrete implications, resulting in the framing of national economies in the process of the technologies mentioned.

From our point of view and taking into consideration the foundations and the public expositions at this time, we recognize the effort made in this area by all stakeholders, but this effort must continue since regression is no longer possible.

Methodology: The research topic subject to theoretical-descriptive analysis is based on the study of public written documents: public policy, economic, social, and financial-fiscal, as well as representative, conceptual images of opinion in the literature, in order to notice and distinguish all the aspects characteristic of the general context in which the manifestations of appearance and depth of the use of digital currencies are included.

The harmonious combination of the theories proposed by this study, relieves the interpretation of the identified objectives with the subsequent relationships within the economic relations between businessmen, governments and local, national and international communities, with the reservation that the subject will be open for a long time to come, being an inexhaustible subject and what opens the opportunity to approach other research methods.

Findings: The ultimate objective of our paper is to identify how "how digital technologies are transforming our world" (Eurostat, 2022) is currently relevant from the perspective of businesspeople, governments, and other communities impacting national and global economies. Therefore, the specificity of the theme is granted by pursuing the following objectives:

- due diligence for compliance of the relevant actors as well as for improving technological transformations;
- the right of decision and acceleration for the implementation of information technologies;
- stability and constancy in the use of digital currencies as a factor for the progress of the economy;
- the usefulness of an International Monetary System: between need and necessity.

Keywords: digital economy, digital currency, economic market, risk, International Monetary System.

1. INTRODUCTION

In our research, we outline the role and importance of public, monetary, and financial policies in accelerating the growth of interest by individuals in showing participation in making significant changes to digital currency exchanges. At the same time, the close objectives of the participants are leading to their increased and obviously growing interest in creating a long-term digital monetary stability in the near future, so that a fair balance in the world economic markets can be achieved by eliminating exchange rate differences between digital currencies. Is the description of risks in investment forms with economic consequences a prerequisite or not to obtain margins of appreciation or depreciation of "classic" currencies, and linking the various types of digital currencies will lead to the creation of an "International Monetary System"?

The final part of the study outlines the conditions for orienting common foreign and security policies toward the creation of an economic area without borders and continents, the achievement of digital economic progress in the form of balance and long-term sustainability, and last but not least the strengthening of citizens' interests and the protection of their economic rights. The political and legislative dimension forms the basis for the integration of participants in the creation of a digital economic market.

2. THE ART OF REGULATING DIGITAL CURRENCIES

The field of developing digital technologies in relation to currencies, as an object of commercial exchange, as financial, banking, and fiscal payment is not legislated by any country within the Organization for Economic Co-operation and Development (OECD), but wider concerns and accessibility are identified in several countries since 2015. As Don Tapscott (2015) affirmed the new economy is a digital economy and a digital economy is a knowledge economy which is enabled by information technology. In one of his speeches, Wyckoff (2015) stated that: "the digital economy has enormous potential for economic growth and well-being – but only if people trust it enough to fully engage. Things are moving very fast, with the arrival of Big Data analytics and the Internet of Things, and we must make sure we are ready for the impact this will have on digital privacy, security, and trust as well as on skills and employment."

According to Ministerial Declaration on the Digital Economy: Innovation, Growth and Social Prosperity (OECD, 2016) ministers and representatives of signatory countries reiterated "stimulating digital innovation and creativity to boost growth and address global social challenges through coordinated policies that promote investment in digital technologies and knowledge-based capital, encourage the availability and use of data, including open data in the public sector, encourage entrepreneurship and the development of small and medium-sized enterprises, and support the continuous transformation of all economic sectors, including public services;" leading to openness and intense concern for building a sustainable and better future in this area. During the years, the development of the Internet and the Web 2.0 technologies for user engagement have made user-generated content an exciting and undeniably significant phenomenon (Peitz & Waldfogel, 2013).

Without going into the details of the "seven policy domains that allow governments - together with citizens, firms and stakeholders - to shape digital transformation to improve lives." (OECD, 2019) we bring attention to the need to promote unified public policies for the establishment of an International Monetary System on the widespread applicability of digital currencies.

The need for efficient organization of digital currencies stems from their accelerated interaction and change in the context of global information technology transformations. As an important part of

overall economic and social welfare and development, the attention of decision-makers in business, companies, and governments alike must be channeled towards the creation of a global network that mediates a pattern of regularity, permanently and systematically, regardless of the degree of economic and social development of each country.

Guided by the Treaty of Rome establishing the European Economic Community (EEC Treaty 1957), subsequently amended in 1986 by the signing of the Single European Agreement and in 1992 by the signing of the Treaty on European Union, adopted in Maastricht, which put in place a mechanism for economic cooperation, which subsequently required coordination of monetary activity and had the following objectives: "the achievement of a customs union, i.e. common tariff protection vis-à-vis third countries; the achievement of free movement of capital, labor and services; the achievement of a Community policy on agriculture." (Saguna, 2010), it identifies effective guidance and direction for the creation of an International Monetary System for digital currencies.

In our understanding, the International Monetary System could represent an international unit of account, in which the margin of appreciation and the margin of depreciation of digital currencies are eliminated, being stabilized at the same monetary value, thus there are no limits of intervention in economic and commercial exchanges. In relation to what has been specified, a favorable and appropriate international framework can be promoted for the creation of a single goal and consensus between states by identifying the following measures: (i) establishment of a single international digital monetary authority; (ii) the implementation of common guidelines and objectives, based on the consensus of all states; (iii) pursuing economic stability of participating states at the macroeconomic level.

3. CENTRAL BANK DIGITAL CURRENCIES: A NEED INDEED?

On November 19, 2021, the World Economic Forum's (WEF) Digital Currency Governance Consortium (DCGC) published a series of eight whitepapers (Digital Currency Governance Consortium White Paper Series, 2021) examining the evolving regulatory landscape for stablecoins and central bank digital currencies (CBDC), concerns on how to address AML/CFT, data privacy, cyber security, and consumer and investor protection, and future scenarios.

Beginning in 2020, in only two years, DCGC succeeded to bring together over 80 organizations from a variety of sectors including the public, private, civic, and academic sectors to discuss key governance and policy issues. After approximately 18 months of research and investigation, DCGC released this resource suite with the clear aim to:

- (i) to provide policy-makers and stakeholders with an understanding of how stablecoins can improve financial inclusion (if at all) and benefit financially underserved groups compared to existing forms of money, and
- (ii) to assess the cases where stablecoins are not able to address the challenges presented by existing forms of money, or where they may introduce. (Digital Currency Governance Consortium White Paper Series, 2021)

According to this report, some of the primary responsibilities that public sector organizations such as central banks, finance ministries, and regulatory authorities might play about stablecoins are as follows: regulation and monitoring, actions that support innovation, granting central bank reserve access. About CBDC, there is specified creation of CBDC, monitoring research or experimentation, and alternatives to CBDC issuance.

The advent of CBDCs was considered to be a “disruptor for the financial ecosystem”, improving payment efficiency and providing an extra operational and technical alternative to the current money paradigm. Issued and governed by a country’s central bank, CBDCs are similar to “traditional money, but in digital form” and “influenced in terms of supply and value by a country’s monetary policies, trade surpluses, and central bank; and based on a digital ledger, and may or may not leverage blockchain or distributed ledger technology” (Deloitte, 2021).

Generally, CBDCs would make the payments environment more robust by promoting competition, efficiency, restrictions, and innovation. They would also address falling cash usage by making legal central bank money more usable and accessible. The trade-offs between risks and opportunities must be carefully considered when making decisions on CBDC issuance and design (Kosse & Mattei, 2022). Combining characteristics such as “scalability, liquidity and [...] remuneration”, CBDCs have become very appealing in relation to financial assets that are traded at an international level.

But what is the difference between CBDCs compared to alternative monetary and financial instruments? To answer this question, we must remember that central bank digital currencies are not “equivalent to electronic cash with a claim against an intermediary such as a commercial bank” and are not “value-dependent and determined entirely by the market”. Also, not governed by “distributed autonomous communities instead of a centralized body”, the international role of a currency depends more on fundamental forces, such as the size of the economy and the stability of its fundamentals.

The status of the CBDCs, as provided by <https://cbdctracker.org/>, shows that each country's motivations are distinct. For example, in developing countries, digital currencies could be transformative due to citizens’ lack of access to dependable and affordable banking. As a result,

central bankers in many countries see digital currencies as a way to maintain their currency's dominance, as Bank of France Governor, Francois Villeroy de Galhau stated that Europe must be prepared to act as rapidly as necessary on both digital currency and payments, or risk of losing the monetary sovereignty, which is unacceptable (Ignatescu & Onufreiciuc, 2021). These examples highlighted that the digital euro's architecture must be carefully evaluated, taking into consideration the consequences for crucial problems such as monetary policy transmission and financial stability.

The first phase of the Digital Euro project is currently being developed by the European Central Bank. The entire research phase is anticipated to last until 2023, at which point a choice will be taken on the project's viability and implementation (Targeted consultation on a digital euro, 2022). The essential aspects of the project are expected to be regulated by Q1 2023 when the European Commission will adopt a legislative proposal to support the uptake of the Digital Euro. Additionally, the EU Council has made its findings about the EU's financial and strategic autonomy public. The Council stressed that "the European Union, having a very large and open economic and financial system, is committed to contribute to, and maintain, an open international economic and financial order, based on the principles of multilateralism, fairness and level playing field" (European Union Council, 2022). These results emphasize the euro's growing international influence and, more especially, how the digital euro will contribute to and broaden its reach. The Council's reasons are generally well known, but they now specifically call for the creation of relevant law and the foundation of the initiative in fundamental European principles. In order to be successful, the Digital Euro will need a "solid and ample support base", built on democratic values and with the intervention of the EU legislator.

Complementing private sector initiatives and catalysing innovation in the financial services and economy, it is of utmost importance to take into account the implications of the Digital Euro on retail payments, financial stability and monetary policy.

4. CONCLUSIONS

In conclusion, regardless of how well-defined sovereign doctrines appear to be, the proliferation of new governance frameworks over the last years reveals a rising variability of approaches both inside and among nations. Considering technological systems to be facilitators of new forms of government, the use of distributed ledger technologies in the public sphere supports a broad movement away from traditional forms of governance in favor of more diverse forms of governance. The issue that inevitably emerges as a result of these institutional mechanisms is the legitimacy of these new forms of governance.

However, by monitoring and examining the principles set out in the “Manifesto for Agile Software Development” (Brown *et. al.*, 2014) we can support the strength and lack of coercion of factors that could compete for prolongation and/or abandonment such an initiative. Governance systems and democracy-building processes also create the appropriate technological and information levers necessary for the reliability, protection and protection of all sensitive information, especially personal data, on public communication channels (Yu *et. al.*, 2020). We appreciate that the determinations of the decision makers in supporting and adopting the presented ones will have a positive effect on the national fiscal policies and norms (Hudelcu, 2020), according to their own forms of government, thus promoting the formation/modification and consolidation of institutions and bodies adapted to the new requirements.

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“YOU ARE WHAT YOU EAT”: ANALYSING THE IMPACT OF DISTINCT DIETARIAN IDENTITIES ON CONSUMER TRUST AND PURCHASE INTENTION

Hungara, Ana Paula; Nobre, Helena

Research Unit of GOVCOPP and Department of Economics, Management, Industrial Engineering and Tourism (DEGEIT), University of Aveiro, Aveiro, Portugal

ABSTRACT

Recently, consumers' concern about the impact of their consumption on animal and environmental welfare has increased. This affected their dietary patterns. Consumers today join online vegan communities, where they develop a shared identity together with other members. Besides, they develop new dietary patterns, which influence their purchases, attitudes, and behaviour. At the same time, companies respond to concerns about animal and environmental welfare by releasing vegetarian and vegan food products. However, the success of these products depends on the correct identification of consumer segments associated with them. Hence, the aim of this paper is to identify the different consumer segments and sub-segments that are associated with the consumption of vegetarian and vegan food products. Besides, it explores the influence of these consumer segments on the intention to purchase and on consumer trust regarding vegan and vegetarian food products. In the endeavour, we review the literature on social and dietarian identity, purchase intention and consumer trust, and propose a conceptual model. In its current form, this paper presents the conceptual part of our work in progress. In the future, we intend to apply the Dietarian Identity Questionnaire as a tool to create a typology of consumers according to their distinct dietarian identities. Furthermore, we plan to measure the levels of purchase intention and consumer trust for the various dietarian identities. This in-progress study will hopefully contribute to the literature and to managerial practice with the identification of relevant segments for promoting vegan and vegetarian products.

Keywords: Dietarian Identity; Social Identity Theory; Online Communities; Purchase Intention; Trust; Vegetarianism

INTRODUCTION

Consumers nowadays show more concern and look for information regarding the impact of their consumption choices on environmental, health, and animal welfare (Grappe, Lombart, Louis and

Durif, 2020; Shen and Chen, 2020). Indeed, traditional livestock has severe impacts on greenhouse gas emissions and leads to intensive use of land and water resources (Shen and Chen, 2020). Motivated by these concerns, many consumers decide to become vegan or vegetarian (Kerslake, Kemper and Conroy, 2022). Thus, they join online communities to meet individuals with the same interests (Prentice, Han, Hua, and Hu, 2019) and gather knowledge on the topic. As community members, they contribute to a shared group identity, which guides their behaviour and beliefs (Hogg, 2016), namely regarding veganism. Even though these members share the same identity, they develop distinct dietarian identities with an impact on their food purchases, their attitudes and behaviour, in general, and how they categorize themselves (Kirsten, Seib-Pfeifer, Lüth and Rosenfeld, 2020; Bartels and Hoogendam, 2011; Rosenfeld, 2018). Simultaneously, firms in different industries are starting to introduce animal- and environmental-friendly products, for instance, vegetarian burgers in McDonald's and Burger King (Shen and Chen, 2020). However, while some vegan consumers appreciate these products, others are against it. Indeed, they can go so far as to boycott these brands. In turn, the impact of these boycotts is larger nowadays due to their increased visibility on social media (Delistavrou, 2022). In this context, there is a need for more research on these new consumption trends and, particularly, on the specific differences between dietary patterns and their impact on consumer behaviour (Martinelli and De Canio, 2022). For instance, while some vegans may be disgusted by meat substitutes that resemble meat, omnivores, when willing to reduce meat consumption, will embrace such meat-looking replacements (Kerslake *et al.*, 2022). Moreover, between vegans and omnivores, there are different sub-groups of dietarian identities, such as pescatarians and flexitarians, which increases the complexity of understanding dietary patterns (Rosenfeld, 2018).

The Dietarian Identity Questionnaire (DIQ) is ideal for measuring differences at the contextual, internalised, and externalised levels of identity and to create a taxonomy of dietarian identities (Rosenfeld, 2018; Kirsten *et al.*, 2020). We hypothesise that applying the DIQ is important to guide firms in their marketing decisions in the context of vegan and vegetarian products, particularly in the identification of distinct consumer segments. Studies so far applied this questionnaire in different countries and contexts (e.g. Kirsten *et al.*, 2020) and addressed the attitudes and purchase intentions regarding vegetarian products (e.g. Miguel, Coelho and Bairrada, 2021; Shen and Chen, 2020). Nevertheless, studies that connect distinct dietarian identities and effective consumer behaviour are scarce (Kirsten *et al.*, 2020). The literature supports the need to consider consumers' different dietarian identities in purchasing intentions (PI) and decisions (e.g. Shen and Chen, 2020). Besides, Kerslake *et al.* (2022) suggest a linkage between communicated brand values, such as veganism, and trust and purchase behaviour. In that sense, we ask:

Q1: How does dietarian identity influence consumer behaviour?

Hence, our study's objectives are twofold. We aim to distinguish among the different dietarian identities and sub-groups of identities that consumers can adopt. Moreover, we explore how these distinct dietarian identities lead to different levels of purchase intention and consumer trust. Hence, we review the literature on social and dietarian identity, as well as on key constructs of consumer behaviour, namely purchase intention (PI) and consumer trust. Following the identification of relevant studies and the formulation of research hypotheses, we intend to answer our main research question through the combination of two studies. In Study I, we intend to apply the DIQ to a sample of members of an online vegan community. The motivations for choosing an online vegan community as our research setting are manifold. For instance, Shen and Chen (2020) view peer communication on social media as a factor that influences PI. Although we do not measure the influence of peer communication on social media, we use an online vegan community as our research setting. Besides, belonging to a group, such as the online community, leads to the development of a shared social identity, even when consumers share differences and identification with an online community influences PI (Wang, 2017). Finally, recruiting members from online communities for similar studies has been reported in the literature (e.g. Kerslake *et al.* 2022) and it allows us to distinguish more clearly the sub-groups of identities (Kerstin *et al.*, 2020; Kerslake *et al.*, 2022) that may exist within a given community. In Study II, we aim to follow an experimental research design to test the proposed relationships between the constructs (Geuens and Pelsmacker, 2017). Using an experimental research design in such studies is useful for bridging the gap between intentions and actual behaviour (Delistavrou, 2022). This in-progress study will hopefully contribute to the marketing literature and practice with the identification of distinct consumer segments concerning vegan and vegetarian products.

LITERATURE REVIEW*Social Identity Theory and Dietarian Identity*

The social identity approach was developed by Henri Tajfel in the 1970s. This theoretical paradigm aims at addressing the minimal group paradigm, according to which belonging to a group leads members to develop competitive intergroup behaviour. At the same time, however, the group provides its members with a shared identity, which guides their behaviour and beliefs (Hogg, 2016). The social identity approach comprises sub-theories, namely social identity theory (SIT), or social identity theory of intergroup relations, self-categorization theory (SCT) (Hogg and Abrams, 2010; Rosenfeld and Burrow, 2017b) and social identity theory (Prentice *et al.*, 2019). The social identity

theory (SIT) establishes that people define themselves personally and socially. At a personal level, they define themselves through their distinct characteristics, such as personality traits and abilities. Socially, they belong to a particular group, where they seek to achieve a positive social identity (Wang, 2017; Sun and Chen, 2020; Papaoikonomou, Cascon-Pereira and Ryan, 2016). This sense of belonging and the characteristics that they share with other members define who they are (Weber and Maffezzoli, 2021; Shen, Yu, and Khalifa, 2010). Finally, according to SCT, the degree to which a given identity is salient for individuals influences their behaviour. For instance, consumers with a more environmentally conscious behaviour tend to spend more on organic foods (Bartels and Hoogendam, 2011).

We believe that a social identity approach is useful to understand consumers with a vegan or vegetarian diet. Our view follows Rosenfeld and Burrow (2017b). According to these authors, vegetarianism is a defining and salient characteristic of social identity. However, this social identity has different manifestations at the individual level (Rosenfeld and Burrow, 2017b). The differences begin already at the level of the motivations that individuals present for following a vegetarian diet. They can be ethical, environmental and/or related to animal welfare. Depending on their motivations, individuals present different attitudes and behaviors (Rosenfeld, 2018). For instance, whether vegans consider that honey consumption is wrong or not influences their honey consumption behaviour (Rosenfeld, 2018). There can also be discrepancies between the diet that people adopt and the one they self-identify with. For instance, not all people who consider themselves vegetarian follow a fully vegetarian diet (Rosenfeld and Burrow, 2017b). In that sense, vegetarianism leads to the emergence of multiple and distinct identities that are related to food choices. To overcome complexity regarding the study of different dietary patterns, researchers have developed scales over time. According to Kirsten *et al.* (2020), the first scale was The Eating Motivation Survey (TEMS), developed in 2012 by Renner *et al.*. Later on, Arbit, Rubin, and Rozin (2017) developed the Meaning of Food in Life Questionnaire (MFLQ) (Arbit *et al.*, 2017; Kirsten *et al.*, 2020). However, these scales lacked measures to address appropriately consumer's motivations to follow a diet. Hence, Rosenfeld and Burrow (2017a) developed the Unified Model of Vegetarian Identity (UMVI). This model captures the role of vegetarianism in an individual's self-concept. It comprises ten dimensions that allow the psychometric assessment of the components of a vegetarian identity. The ten dimensions comprise the contextual, internalized, and externalized levels of identity (Rosenfeld, 2018; Kirsten *et al.*, 2020). In 2018, Rosenfeld and Burrow expanded the scope of the scale to include other dietary patterns and created the Dietarian Identity Questionnaire (DIQ) (Rosenfeld and Burrow, 2018; Kirsten *et al.*, 2020). The DIQ assesses an individual's feelings and thoughts regarding the consumption of animal products. Dietarian identity, as defined by Rosenfeld and Burrow in 2018, comprises psychological variables,

namely: centrality; private, public and outgroup regard; prosocial, personal, and moral motivations and diet strictness (Rosenfeld, 2019). Centrality reflects the degree to which avoiding meat is a predominant feature of one's overall identity (Rosenfeld, Rothberger and Tomiyama, 2020). Prosocial motivation aims to benefit a cause beyond oneself; personal motivation refers to benefits to oneself; and moral motivation abides by rules of what is right and wrong (Rosenfeld *et al.*, 2020). Hence, the DIQ explores dietarian identity beyond dietarian patterns, with a focus on the beliefs, attitudes, motivations, and values that affect consumer behaviour (Rosenfeld, 2019; Montesdeoca, Suárez, Hernández, and Rolo-González, 2021). Authors use this questionnaire to distinguish the behavioural differences of vegetarians, vegans, omnivores and, more recently, pescatarians (Rosenfeld and Tomiyama, 2021). In contrast with the traditionally used labels that distinguish dietary patterns, the DIQ is more accurate, since it ascertains different commitments with food choices (Montesdeoca *et al.*, 2021). Indeed, consumers' self-identification with a given label and their actual dietary patterns may differ (Rosenfeld and Tomiyama, 2021). Hence, the DIQ is the best option to distinguish these nuances.

Purchase Intention

According to Dodds, Monroe, and Grewal (1991), purchase intention can be expressed as a willingness to purchase a product, which is linked to value and quality perceptions. Value and quality perceptions, in turn, are measured through prices, brand name and store name. Besides, PI establishes a disposition or a positive attitude towards the purchase of a product, leading to a higher purchase likelihood (Oliver, 1980; Cronin and Taylor, 1992). Attitude leading to purchase, in turn, links to prior expectations about the firm (Oliver, 1980; Cronin and Taylor, 1992). Moreover, PI links to a probability of future purchase, which is both based on post-exposure attitude and satisfaction. In that sense, PI can change over time, as supported by the theory of planned behaviour (TPB). The TPB follows from the Theory of Reasoned Action (TRA) and complements this theory by dealing with behaviors that individuals do not fully control. According to the TPB, perceived behavioural control, attitude, and subjective norm impact intentions (Ajzen, 1985), such as PI. Accordingly, intentions indicate how hard someone is willing to try and perform a behaviour. However, since behaviour is not under complete volitional control, it is influenced by perceived behavioural control, that is, people's perception of easiness or difficulty in performing the behaviour. Attitude towards the behaviour is related to the evaluation that an individual makes of a behaviour. Finally, subjective norm concerns the perceived social pressure to perform a behaviour (Ajzen, 1985).

Most studies that we found regarding vegan and organic products, namely food and cosmetics, address PI under the theory of planned behaviour (e.g., Shen and Chen, 2020; Grappe *et al.*, 2020) or

under the theory of reasoned action (e.g. Martinelli and De Canio, 2021; Troudi and Bouyoucef, 2019). For instance, Shen and Chen (2020) use the TPB to explore the purchase intentions of consumers with different dietary patterns regarding artificial meat burgers. Besides, the authors included product knowledge and environmental concern as additional study variables. Grappe *et al.* (2020) explore the impact of the credibility of “not tested on animals” claims on PI and attitudes towards “not tested on animals” cosmetic products. Besides, the authors complement Ajzen’s (1985) TPB model by introducing internal psychological variables such as personal concerns with animal welfare and appearance as predictors of attitude and PI. Hence, the authors reveal that the credibility of a message positively impacts attitude. Furthermore, internal psychological values of appearance and animal welfare concerns influence attitude positively. This leads to a higher PI both directly and indirectly, through attitude. Similarly, Martinelli and De Canio (2021) addressed the PI of veg private labels, that is, private labels that sell meat-substitute, vegan, and vegetarian products. The authors follow an attitude-intention path according to the TRA. Hence, they consider the following drivers of PI: 1) ethical motives, such as concerns with animal and environmental welfare, health, and religion; 2) perceptual factors, such as perceived quality, trust in the veg private label and perceived value. Also following the TRA, Troudi and Bouyoucef (2019) explore the green purchase behaviour of Algerian consumers. The authors consider green marketing and personal factors as antecedents of purchase behaviour. Besides, they use intention to buy green food as an antecedent of actual purchase behaviour, together with attitude towards green food. Miguel *et al.*’s (2021) conceptual model analyse the impacts of personal and moral antecedents, attitudes, and involvement with vegan products on PI and word-of-mouth. The personal and moral antecedents presented by Miguel *et al.* (2021) are similar to those presented by Grappe *et al.* (2021), namely: health awareness, social influence, environmental concerns, and animal welfare.

The studies analysed above (i.e., Shen and Chen, 2020; Grappe *et al.*, 2020; Martinelli and De Canio, 2021; Miguel *et al.*, 2021) allow us to understand what the main variables of PI in a vegan and vegetarian context are. They include, for instance, attitude, perceived behavioural control and subjective norm; but also, product and environmental issues knowledge, environmental, animal, and personal appearance concerns, credibility on products and their associated claims, health, religion, perceived value, perceived quality, trust, product involvement and price (Shen and Chen, 2020; Grappe *et al.*, 2020; Martinelli and De Canio, 2021; Miguel *et al.*, 2021; Troudi and Bouyoucef, 2019). Furthermore, we note that animal and environmental welfare are antecedents of PI in the reviewed studies. This reinforces the findings of Miguel *et al.* (2021) that veganism comprises attitudes and beliefs towards nature. Moreover, Miguel *et al.* (2021) find that attitude toward vegan products influences PI. Attitude is an antecedent of PI in both credibility of claims and attitude towards the

product in Grappe *et al.*'s (2020) study. This reinforces the impact of attitude on behavioural intentions and the usefulness of using a TPB framework to assess the PI of vegan and vegetarian products. Nevertheless, the studies are not without limitations, particularly regarding the choice of participants. Indeed, Shen and Chen (2020) only distinguish between nonvegetarians and vegetarians. Besides, Martinelli and De Canio (2021) segment vegan, vegetarian, and non-vegan consumers in terms of their buying frequency. Finally, Miguel *et al.*'s (2021) address the consumption of vegan products only from the perspective of vegan consumers. In all cases, authors fail to acknowledge differences for other dietarian identities (e.g., pescatarians, flexitarians, among others). Accordingly, following the lack of studies that connect different dietarian identities to PI, we hypothesize that:

H1: PI varies according to consumer's dietarian identity.

Consumer Trust

The concept of trust has different conceptualizations and measurements (Kantsperger and Kunz, 2010). Trust links to the consumer's belief that the company is acting in their best interest, in a truthful, trustworthy, well-intentioned, and efficient way (Moorman, Deshpandé and Zaltman, 1993; Glaveli, 2021). Besides, it comprises a behavioural intention to rely on a partner (Moorman *et al.*, 1993), at the expense of vulnerability, interdependence and risk-taking (Sheppard and Sherman, 1998; Rousseau, Sitkin, Burt and Camerer, 1998). Accordingly, trust can take two forms: 1) calculative trust, which is based on weighing specific gains and losses in a relationship; 2) and emotional trust, which is based on attachment to communal relationships (Rousseau *et al.*, 1999). Finally, we can define trust through its combined emotional, cognitive, and behavioural dimensions (Lewis and Weigert, 1985). Trust can also be related to customer trust, that is, to a customer's relationship with a firm. In that sense, it marks a shift from discrete transactions to exchange relationships (Glaveli, 2021). The concept of customer trust involves two aspects widely applied in the literature (e.g., Glaveli, 2021; Martínez and Del Bosque, 2013). These two aspects depend on whether customer trust focuses on performance or more affective aspects. The first one refers to perceived performance/credibility, whereas the latter refers to integrity/ benevolence (Kantsperger and Kunz, 2010).

Similar to the conclusions of Nuttavuthisit and Thøgersen (2017) regarding organic food, we find that the number of articles concerning consumer trust in the context of vegan and vegetarian products is scarce. Hence, our literature review also focuses on articles in similar contexts to complement the information. For instance, Glaveli (2021) addresses consumers' environmental, social, and ethical concerns under Corporate Social Responsibility (CSR), using customer trust as both an outcome variable and a mediating variable. Indeed, perceptions of CSR efforts influence customer trust in a

firm directly. Besides, customer trust acts as a mediator between these perceptions and repurchase behaviour and willingness to recommend (Glaveli, 2021). Similarly, Martínez and Del Bosque (2013) conceptualize trust as a mediator between CSR and hotel customer loyalty, together with satisfaction and customer identification with the firm. Moreover, concerning organic products, Nuttavuthisit and Thøgersen (2017) use a modified version of the TPB as a framework for addressing the role of trust in the buying behaviour of organic food. Moreover, the authors distinguish trust in organic institutions (i.e., system trust) from trust in producers or sellers (i.e., personal). Under the literature on vegan and vegetarian products, trust appears linked to the theory of reasoned action (TRA) (e.g., Martinelli and De Canio, 2021) and to the TPB (Grappe *et al.*, 2021). Grappe *et al.* (2021) do not refer to trust directly but to the credibility of the products and claims that are associated with “not tested on animals” cosmetics. Indeed, according to Grappe *et al.* (2021) credibility is an antecedent of attitude. In other words, perceptual factors influence the attitude towards cosmetics, with a subsequent impact on the PI. Martinelli and De Canio (2021) address trust as a perceptual factor that influences buying intentions, together with ethical motives, perceived quality, and perceived value. Besides, they conceptualize trust as trust in a retailer’s brand for veg food private labels. However, as the authors also recognise, these findings present limitations. Indeed, they address trust as a unidimensional construct. Finally, Kerslake *et al.* (2022) analyse the main barriers and facilitators regarding the consumption of meat substitutes and conceptualize lack of trust as a barrier. However, this study is qualitative and, as such, does not measure trust with quantifiable items.

Trust is particularly important in the context of vegan and vegetarian products. Indeed, companies start to focus on developing cruelty-free cosmetics (e.g., Grappe *et al.*, 2021), artificial meat and meat substitutes (e.g., Kerslake *et al.*, 2022) and other products designed to suppress the needs of increasingly demanding consumers. The success of these new products depends upon consumers overcoming neophobia (Kerslake *et al.*, 2022) and trusting retailers and their products. Nuttavuthisit and Thøgersen (2017) support that consumer trust is an essential prerequisite to developing the market for organic food products, particularly as they are premium-priced. We believe this effect to be similar for vegan and vegetarian products. Furthermore, we find that the concept of trust connects to perceived credibility/ performance in the literature regarding vegan and vegetarian products. The credibility of claims that products are vegan, green, or organic is indeed important because not all consumers have the technical expertise to distinguish the presence of these characteristics (Nuttavuthisit and Thøgersen, 2017). Even though Grappe *et al.* (2021) address this issue under the TPB, the authors’ study presents a limited understanding of trust. Indeed, trust is a unique theoretical construct that influences consumer decision-making and behaviour differently from the propositions of TPB. Therefore, researchers should analyse it as a separate variable, outside of TPB (Nuttavuthisit

and Thøgersen, 2017). Moreover, when analysing trust, it is important to analyse more than just credibility (Kantsperger and Kunz, 2010). Hence, in a way similar to Martínez and Del Bosque (2013), we support that consumers need to trust not only the competence and performance of vegan and vegetarian products and their retailers but also their benevolence. Martínez and Del Bosque (2013) express benevolence as the belief that the company “[...] will not only act in a competent and reliable manner but will also have the wellbeing and interests of the customer at heart [...]” (Martínez and Del Bosque, 2013, p. 91). We add that consumers need to trust that retailers act according to the beliefs that guide their dietarian identity. According to Kerslake *et al.* (2022), vegan consumers find it more difficult to trust companies if they consider them to be performing veganwashing. Veganwashing refers to the promotion of vegan products to cover up other damaging company practices. As we can infer, this example demonstrates that vegans possess knowledge regarding the practice of veganwashing. Nevertheless, consumers with low knowledge of such harms, normally nonvegans, tend to use trust as a cue for their buying behaviour (Nuttavuthisit and Thøgersen, 2017).

From the literature review, we identified the following limitations. First, we need to address trust as a bi-dimensional construct rather than only focusing on credibility (Kantsperger and Kunz, 2010). Besides, given the theoretical richness of consumer trust, we need to analyse it as a separate construct, following other studies (e.g., Glaveli, 2021; Nuttavuthisit and Thøgersen, 2017). Second, consumers with distinct dietarian identities demonstrate differences in trust (Kerslake *et al.*, 2022) that currently lack consideration. Although Kerslake *et al.* (2022) address reasons for the lack of trust for vegans and omnivores; the study only addresses two main dietarian identities. Besides, as a qualitative study, it addresses only the reasons and not to the extent to which consumers with different dietarian identities exhibit trust. Hence, to overcome the identified gaps, we conceptualize trust according to its two main dimensions and we reflect on the impact of dietarian identity as a mediator of the relationship between customer trust and PI:

H2a: Credibility on the food brand/firm mediates the influence of Dietarian Identity on PI.

H2b: Benevolence of the food/brand firm mediates the influence of Dietarian Identity on PI.

EXPECTED CONTRIBUTIONS AND IMPLICATIONS

Through this in-progress work, we aim to contribute to the literature and practice as follows. First, we expect to close the gap regarding the development of distinct identities and sub-groups of identities by consumers of vegan and vegetarian food products. This gap has already been identified by Kerstin *et al.* in 2020. Secondly, we aim to contribute to the literature by connecting the identified dietarian

identities to their intentions and behaviour. So far, to the best of our knowledge, this study is the first to make this connection. There are studies that focus on identifying dietarian identities and on extending the application of the DIQ to different country contexts (e.g. Rosenfeld, 2018; Kirsten *et al.*, 2020). However, these studies do not focus on analysing the relationship between assuming a certain dietarian identity and consumer behaviour. Hence, we hope to contribute to a better understanding of the role of identity on PI and consumer trust. Finally, we find that this work also has managerial implications. Indeed, it can contribute to the creation of more personalized marketing strategies according to the consumer's dietarian identity and to their different needs. This could also help companies to anticipate brand boycott. Boycott to different brands is becoming more popular nowadays. With social media, different boycott movements become more visible and reach more people (Delistavrou, 2022). In that context, some vegan consumers choose to boycott brands that do not comply with animal welfare ; whereas others actually purchase the brand's products. Hence, we support that the outcomes of this study hopefully provide a useful tool to predict the unique ways in which consumers with different motivations and identities may respond to the brand's actions.

CONCLUSION

Our work presents the conceptual part of an in-progress study. We depart from a literature review on social identity, dietarian identity and the constructs of PI and consumer trust and propose a conceptual model. In the endeavour, we identify three main research gaps in the literature concerning vegan and vegetarian products. The first gap pertains to the study of consumers with distinct dietarian identities and sub-groups of dietarian identities. Thus far, such sub-groups have been understudied (Kirsten *et al.*, 2020). The second gap comprises the connection between these dietarian identities and effective consumer behaviour, namely through and the constructs of PI and consumer trust. Finally, we found a lack of studies with a multidimensional approach to consumer trust. The study intends to fulfil the identified gaps. Hence, in the future, we plan to apply a version of the DIQ to a sample of online vegan community members. The use of this questionnaire in the community will be important to distinguish different sub-groups of dietarian identities and create a typology of consumers. The creation of this typology will be important for companies and marketers to plan more personalized marketing strategies, for the different sub-groups of consumer identities. Besides, we aim to measure the levels of purchase intention and consumer trust for the various identified dietarian identities. Thus, we intend to assess the proposed relationships through an experimental research design (Geuens and Pelsmacker, 2017), as also suggested by Kerslake *et al.* (2022), for the context of vegan and vegetarian products. We hope to contribute to the literature with the identification of distinct groups and sub-groups of consumers according to their dietarian identity. Besides, we seek to

demonstrate how these identities interact differently with other constructs and lead to PI. Hopefully, this work leads to the identification of distinct consumer segments in the market for vegan and vegetarian products. We hope that it enhances the creation of more accurate and personalized marketing strategies, particularly in the food industry. Besides it hopefully allows marketers and companies to anticipate the expected behaviour of these sub-groups regarding purchase intention, actual purchase and consumer trust.

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DEVELOPING A THEORETICAL FRAMEWORK TO MANAGE ENVIRONMENTAL SUSTAINABILITY

Iacoviello, Giuseppina¹; Brizzi, Giulio²

¹Department of Economics and Management, University of Pisa, Pisa Italy

²Tre Zeta Group, San Donato (Pisa), Italy

ABSTRACT

This paper provides a comprehensive review of the sustainability literature and expands the conceptualization of sustainability using the concepts of Balanced Scorecard and Triple Bottom Line. The aim of this study is to propose a framework for managing sustainability using a mapping of social and environmental KPIs and assessing their performance. This study addresses issues related to sustainability and the possibility of defining a framework that can support sustainable challenges. This paper used an exploratory, descriptive, qualitative design to encourage firms to engage in more incisive behavior toward sustainability. This research contributes to the literature by developing a framework for managing and accessing sustainability by mapping KPI values and providing practical recommendations for its use.

Keywords: corporate social responsibility; sustainability performance; triple bottom line; sustainable balanced scorecard; corporate sustainability; sustainable performance measurement system; sustainable performance assessment; eco-control; eco-efficiency.

INTRODUCTION

The aim of this study is to draft a framework in response to the management of sustainability based on a balanced scorecard-Triple Bottom Line format.

The framework provides information to implement a qualitative analysis that supports the integration of sustainability into long-term strategies. The KPI analysis should be able to demonstrate how a firm can operate to obtain greater sustainability.

As a result of complex environmental challenges and achieving development, sustainability has garnered more attention among companies that recognize the need to integrate sustainability thinking into their business activities (Proença *et al.*, 2022; Szulecka, 2019). Although some scholars underlined the gap between corporate rhetoric in policy and mission statements on the one hand and companies' actions on the other hand, many companies have implemented sustainable practices (Bratt *et al.*, 2021). Some scholars (Kopnina, 2017; Gardner and Stern, 2002) emphasized that this misalignment prevents

companies from always producing the expected sustainability value. The literature showed that some companies are committed to green strategies and have the goal of contributing to positive economic development, social cohesion, and the protection and valorization of the environment (Apenko, 2021; Britzelmaie *et al.*, 2018; Kopnina and Shoreman-Ouimet, 2015). These companies managed to gain significant competitive advantages, such as cost reduction, better risk management, and a growing positive reputation in the market (Langert, 2019; Garrett *et al.*, 2019; Geissdoerfer *et al.*, 2017; Stahel, 1982). Hence, companies must consider several sustainability criteria for their choices and a framework to manage sustainability. Furthermore, the Covid era enables new instruments to ensure more sustainable firm activities (*e.g.*, smart working, desk sharing, remote control). Firms must move toward a greener way of doing business considering these new instruments and government aids for a green transition.

This study is based on an exploratory-descriptive qualitative design (Hunter *et al.*, 2018) that consists of an exploration of concept maps - as outlined in previous research - and introduces an extension (Fattore, 2005). This research contributes knowledge by proposing a framework based on a mapping of social and environmental KPIs that considers the desired level by firms and their relationship with government requests.

The practical implication of this framework is that it provides a short guide for evaluating company's performance using objective, specific, and clear measures.

The originality and value of this study is from its important attempt to evaluate a corporate sustainable performance using a sustainable balanced scorecard to take in account more key indicators.

The remainder of this paper is organized as follows. The next section presents a literature review. Section 3 outlines the research design of this study. Section 4 discusses the findings and framework. Finally, Section 5 presents the conclusions.

LITERATURE REVIEW

Sustainability review

The field of sustainability is extensively treated. The Brundtland Commission (1987) provided the broadest and generally globally recognized definition of sustainability and sustainable development: development that meets existing needs without compromising the ability of future generations to meet their needs. Since then, several other definitions and declinations have been formulated.

Considering the definition of sustainable development provided by the IUCN (1980) - which clarifies that sustainable development must consider social and environmental factors and give them the same importance as inexpensive factors - is useful when moving from a macro to a micro perspective. This second definition enables us to analyze sustainability through three main dimensions: environmental sustainability, economic sustainability, and social sustainability. Goodland and Landec (1987) noted that sustainable development refers to the use of renewable natural resources in a manner that does not eliminate or degrade them or diminish their usefulness for future generations. Markandya and Pearce (1988) underlined that sustainability might be redefined to consider that the use of resources does not reduce real future income because it requires that conditions necessary for equal access to the resource base be met for each subsequent generation.

The second dimension of the analysis concerns social sustainability - a fundamental pillar (Diamond, 2005). The definition of social sustainability is slightly more controversial; Black (2004) defined it as the extent to which social values, social identities, social relationships, and social institutions can continue. In contrast, Gilbert *et al.* (1996) explained that social sustainability requires that society's cohesion and ability to work toward common goals be maintained. Individual needs, such as health and well-being, nutrition, shelter, education, and cultural expression, should be met.

The last dimension of the analysis - and perhaps the best known and most studied one - is environmental sustainability. This perspective connects the concept of sustainability with environmental sustainability. Goodland (1995) declared that sustainability seeks to improve human welfare by protecting the raw material sources used for human needs and ensuring that the sinks for human waste are not exceeded to prevent harm to humans. Environmental sustainability can be traced back to six main areas of study: climate systems, human settlements, energy systems, territorial systems, carbon cycles, and aquatic systems. Crane and Matten (2007) stated that sustainability refers to the long-term maintenance of a system according to environmental, economic, and social considerations, leading to the assessment of sustainability from a long-term perspective and not simply as compliance with certain rules or legal impositions of current institutional systems.

Currently, the main fields are Corporate Social Responsibility (CSR) and Corporate Sustainability (CS). Definitions of CSR and CS are presented in Table 1 (Whiteman *et al.*, 2013; Crane and Matten, 2007; Seyfang, 2003; McWilliams and Siegel, 2001; Rio Declaration, 1992; Carroll, 1991). It's important to remember that both concepts should be referred to internal and external actors.

Author	Definition	Field
Crane and Matten (2007)	Sustainability refers to the long-term maintenance of a system according to environmental, economic, and social considerations.	CS
Whiteman, Walker, Perego (2013)	Sustainability is about envisioning a prosperous future within planetary boundaries.	CS
McWilliams, Siegel (2001)	Comprises actions not required by law but furthering social good and extending beyond the explicit, transactional interests of an organization.	CSR
Carrol (1991)	Positive social repercussions that corporate behavior and decisions have on society.	CSR

Table 1: *Definitions of CSR and CS (Source: own elaboration)*

Balanced scorecard review

The most well-known performance-measuring system is the balanced scorecard (BSC), formulated by Kaplan and Norton (1992) and defined as *“a strategic management system that links performance measurement to strategy using a multidimensional set of financial and non-financial performance metrics.”* This definition enables the identification of the foundations on which the PMS is based. These bases are attributable to five main points: use of financial and non-financial key performance indicators (maximum 15 - 20), deployment on four perspectives (financial, market, internal processes, learning, and growth), leading and lagging indicators with cause - effect connections, link between short- and long-term goals, and use of strategic maps.

Triple bottom line review:

During the 1990s, one of the most important concepts concerning sustainability was coined the triple bottom line (TBL). Adams *et al.* (2014) defined TBL as *“the most influential approach to multiple accounts.”* In fact, multidimensionality is the result of the use of the three Ps: People, Planet, and Profit - the drivers for the win – win - win strategy. TBL has declined in many fields, including reporting, long - and short-term planning, and operative activities. However, as in Robbins (2006), we refer to it for the reporting area. This technique places the theme of Planet, People, and Profit at the center of interest. The firm must consider these drivers as the basis of all initiatives and follow these principles. However, these actions should not be implemented to satisfy only compliance requests but should analyze, with greater consciousness, all the problems at stake to provide an exhaustive overview of how, where, and what the firm is doing concerning these three variables (Touboullic and Ejodam, 2016). Environmental and social responsibility should be in the heart of every business leader (Elkington, 1997; 2004).

Sustainable balanced scorecard review:

The sustainable balanced scorecard (SBSC) is a performance measurement system that allows integration of the BSC classic dimension with those aiming to represent sustainability to ensure that it provides a useful representation of the firm from a sustainable point of view (Aly and Mansour, 2017). The SBSC enables the management, control, and fixation of financial, social, and environmental goals at various levels of relevance, allowing an efficient implementation of the strategy, from Berti (2018) through the insertion of sustainable business goals into a broader strategic plan and the predisposition of action that once implemented consent to achieve a sustainable performance target (Epstein, 2001; Jammes *et al.*, 2018). The SBSC is a relatively new tool, and a specific year of introduction cannot be identified but can be referred to as the early 2000s. During these years, the sustainable thematic has seen an exponential increase in interest from authorities, the government, firms, and educational institutions. Therefore, in contrast to TBL and BSC, identifying a specific shared reference model is impossible (Hoque and James, 2000; Lu *et al.*, 2018). In addition, finding a model is difficult - several case studies have been conducted, but a specific model formulation has not been established. Figge *et al.* (2002) provided three alternative methods to include sustainability in the BSC.

The first method, proposed by Möller and Schaltegger (2005), consists of including KPIs aimed at representing the firm's sustainability performance into the classic four dimensions of the BSC. The second, attributable to Hubbard (2009), proposes increasing the dimension of the classic BSC from four to five or six to consider sustainability. Finally, Figge *et al.* (2002) suggested creating two different dashboards to manage aspects of sustainability: the classic BSC and an SBSC. The third approach is less used and studied because it wastes too much money, time, and resources considering that it requires the formulation of two dashboards. Additionally, the use of these two dashboards could result in a lack of information intake because they are considered inadequate for the decision-making process, given the divided information. The first approach is easier and more widespread because it is the least expensive in terms of money and time. In fact, including the sustainability KPIs in the classic BSC to implement this version of SBSC is sufficient. Nevertheless, the main weakness of the classic BSC is that it is traceable because of the lack of focus on sustainable performance - considering humans' ability to view and analyze data, inserting sustainable KPIs into the four classic dimensions is not enough to have a clear idea of the firm's performance.

In our opinion, one useful approach is the Hubbard approach (2006) because the positive aspect of intelligibility beats the negative aspects even if it is more expensive than the first one in terms of money and time. In fact, the inclusion of a maximum of two sustainability dimensions into the classic BSC could bring several benefits regarding the decision-making process. This method enables sustainability aspects to be highlighted.

In this study, we support Hubbard's idea using six dimensions: financial, market, internal processes, L&G, social, and environmental (Figure 1):

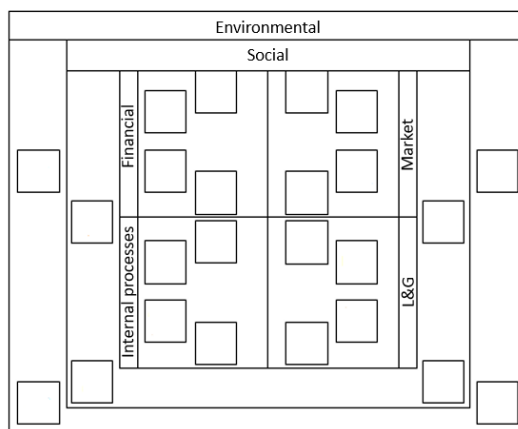


Figure 1: *Example of Sustainable Balanced Scorecard (Source: own elaboration)*

The SBSC allows sustainable intangibles to be enhanced. According to Donato (2000), the transformation of the BSC in a sustainable performance measurement system makes it a valid instrument for short- and long-term decisions and satisfies the following requirements: short- and long-term goal equilibrium; balancing effectiveness and efficiency measures; supporting the decision-making process; balancing economic, social, and environmental aspects; reporting aspects for internal and external stakeholders; and assessing activity from a sustainable development point of view.

RESEARCH DESIGN

This study is based on an exploratory-descriptive qualitative methodology at a theoretical level. As scholars suggested (Caelli *et al.*, 2003; Sandelowski, 2010), this choice is suitable because the aim of the researchers is to produce a straightforward description of the sustainability phenomena and to understand who is involved and where events took place in relation to it. The chosen approach to theory analysis is thematic analysis because it should identify the main statements and the core of the frameworks of the management and control of sustainability. These "statements" are used to develop a framework that covers the gap in the literature and seeks to fulfill the conditions to manage sustainability. We used both primary and secondary sources to define the framework. The former refers to the most recent study and research normative documents expressing European positions on the issue, whereas the latter refers to the contents of the national and international literature. We conducted systematic searches and explored empirical and theoretical scientific papers (Campbell *et al.*, 2014) that focused on the field of sustainability. We searched papers published in scientific journals between 1991 and 2020 (Elsevier, ResearchGate, Wiley, Business and Society, CRRRC, Capstone

Publishing Ltd. Oxford, Business Horizons, KPMG, MPRA, Journal of Applied Economics, Harvard Business Review, American Accounting Association, CMER, Economic Bulletin, Journal of Economic Literature, Sinergie, Rivista di studi e ricerche, California Management Review, IJPDLM). Because of the vague nature of the titles, we conducted a first-stage selection by reading both titles and abstracts. During the second stage, we excluded studies that focused on other types of issues, such as reporting, compliance, and review. We selected papers based on the full texts, which allowed us to define the operational framework for implementing a sustainability control system (Table 2).

Author	Instrument	Key aspects
Epstein and Wisner, 2001	Sustainability Balanced Scorecard	SBSC can be used by organizations to implement a sustainability strategy and link corporate sustainability objectives with appropriate corporate actions and performance outcomes.
Hockerts and Zingales - 2002	Sustainability Balanced Scorecard	The topic of integrating sustainability in core decision-making processes seems to be agenda items of many firms today. Whether the Balanced Scorecard represents a way to do that depends on several factors, not least a deep understanding of the real meaning of integration and how a competitive advantage is constituted in practice.
Deshmukh and Varma, 2009	Sustainability Balanced Scorecard	By elevating the BSC from the organization to the industry level, the model could be used for benchmarking organizations within an industry to substantially enhance its flexibility.
Berti - 2018	Sustainability Balanced Scorecard	A critical analysis of the BSC was conducted, which was implemented to monitor the sustainable performance of an important Italian financial firm.
Tsai et al. - 2020	Sustainability Balanced Scorecard	The three main pillars (environmental, social, and economic) of the sustainability concept were considered the three important sustainability criteria. The Analytical Hierarchy Process was used to create the main sustainability components (the three criteria associated with their aspects and indicators) of a hierarchy.
Nikolaou and Tsalis - 2013	Sustainability Balanced Scorecard	The SBSC scoring framework uses Global Reporting Initiative (GRI) indicators and scoring–benchmarking techniques to measure corporate sustainability performance by drawing data from corporate sustainability reports.
Figge et al., 2002	Sustainability Balanced Scorecard	Formulating a SBSC depends on the nature of the strategically relevant environmental and social aspects identified during rather than at the beginning of such a formulation.
Elkington - 1997	Triple Bottom Line	Social justice, economic prosperity, and environmental quality—the three key elements of this triple bottom line—are the yardsticks against which corporate performance is measured.
Hubbard - 2006	Sustainability Balanced Scorecard	SBSC is a dynamic concept. Over time, sustainability might be more deeply and comprehensively integrated into the SBSC. From this view, the SBSC linking sustainability with strategy and strategy transformation can be expected to move from less to more proactive strategies.

Robbins - 2006	Triple Bottom Line	Triple bottom line theory claims to be a reporting mechanism designed to encourage businesses to pay closer attention to the entire impact of their commercial activities rather than just their financial performance.
Touboullic and Ejodame - 2016	Triple Bottom Line	The representation of the triple bottom line applies to Maslow's hierarchy of needs as a theoretical lens. The national, organizational, and individual levels of analysis interact to grasp the gap in the complexity of moving toward sustainability.
Gray et al., 2014	Triple Bottom Line	For a triple bottom line report to be worth anything beyond public relations puff must contain a substantial and believable social report and a full and audited environmental report. Only in this way can these conflicts and tradeoffs be exposed and, ultimately, their causes explored, and solutions considered.

Table 2: *Sustainability control systems (Source: own elaboration)*

The second-stage selection resulted in Hubbard's model:

Level one: What are the dimensions of the system being studied?	A firm might define its system as its own ecosystem of activities and operational locations, the activities and locations of its suppliers, and its human economic and social system.
Level two: What is the desired sustainability level?	A firm might consider the renewable and non-renewable inputs to its system (e.g., chemical additives, land use) and system "leakages," which have no organizational value but some ecological costs (e.g., wastes, chemical residues).
Level three: What processes must be undertaken to achieve these levels?	A firm might decide that it needs to review its purchasing policies (e.g., considering its price/environmental impact tradeoff) and its manufacturing system (e.g., where are the leakages occurring and why?).
Level four: What practical actions are in line with these processes?	A firm might include environmental impact as a purchasing criterion and take specific action to change its manufacturing processes to reduce leakages.
Level five: What tools and metrics should be used to measure the success of these actions?	The firm might apply specific targets, such as the amount of a particular toxic chemical that could be used per unit of production or emitted and yet be absorbed by the ecosystem.

Table 3: *Five levels of conceptual measurement systems (Source: Hubbard, 2009)*

The framework proposed by Hubbard consists of a five-level process. Our contribution is a sixth level at which management proceeds using this ex-post assessment to provide a score for the strategy (Table 4).

Level six: What is the sustainable performance score achieved from the firm?	The firm, once comparing the ex-post KPIs' value with the ex-ante value, proceeds to assign a score to each KPI in coherence with the scale formulated in the planning phase.
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Table 4: *Sixth level (Source: our elaboration)*

The first level consists of an overview of the firm's context. Level two consists of the decision about the desired sustainability level that it wants to achieve considering firm and government needs. Once the firm wants to arrive, there must be a review of the processes that need to be changed and implemented at the third level. At the fourth level, an exhaustively practical action program on the processes must be set to maintain meticulous control. At the fifth level, an accurate choice on the set of reasonable KPIs must be carried out. To conclude, the sixth level - our contribution - consists of an assessment in which the ex-ante KPI values are compared with the ex-post values to obtain a KPI's point, dimension score, and performance score.

The single KPI score is obtained through the link between a specific echelon set during the planning phase and its value. By summing the KPI score of a dimension and then dividing it by the number of KPIs in each dimension, we obtain the dimension score. Finally, the performance score is obtained by summing each dimension score and dividing this sum by the number of dimensions. The possibility of assigning a specific weight to a specific dimension to provide more relevance to a specific dimension is crucially important. This sixth level allows us to note that a firm could achieve higher awareness because it could set a target score and form this result to evaluate whether the performance has been acceptable.

THE FINDINGS AND THE FRAMEWORK

The findings of this study expand the boundaries of knowledge regarding the management and assessment of sustainability in companies.

The innovative aspects of the research, relative to the existing literature, refer to the construction of a framework that defines tools, assessments, and processes. The sixth stage allows the firm to achieve a performance score through an ex-post one - to five-point value scale for the attribution of KPIs' points that should be established during the planning after KPIs. The criterion for the attribution of points is as follows.

- To simplify the formulation, starting from a four-point value is suggested. In fact, four points are given for a KPI that achieves a target that is challenging but achievable.
- Five points are given if the firm overperforms because of, for example, favorable market conditions, prices, or managerial skills.
- Three points indicate underperformance, but not grave, because of the same conditions that are given for five points but with negative aspects.

- Two points indicate that some problems start to arise and must be taken seriously. The firm does not perform well and should review its operations.
- The most significant problems that require reorganization are marked by one point, which indicates that the firm has not correctly formulated a strategy. This process has to be repeated and revisited.
- For an exhaustive model, we consider zero points for a negative value.

Of crucial importance to formulating scale is the surroundings-echelon. In fact, each score is given if the KPIs reach a particular echelon, which is pointed out during the planning step. Therefore, each score is related to a particular echelon. To ensure more flexible score allocation, the surroundings must be considered, given the several variables at stake. Their utility is related to the possibility of giving a specific score to KPIs even if the specific echelon is not recorded.

Considering that a generally adopted sustainable report does not exist, to explain the functioning of our scale we have decided to use the ROI. This is because the KPI bases are generally shared and well-known in researcher and practitioners' knowledge.

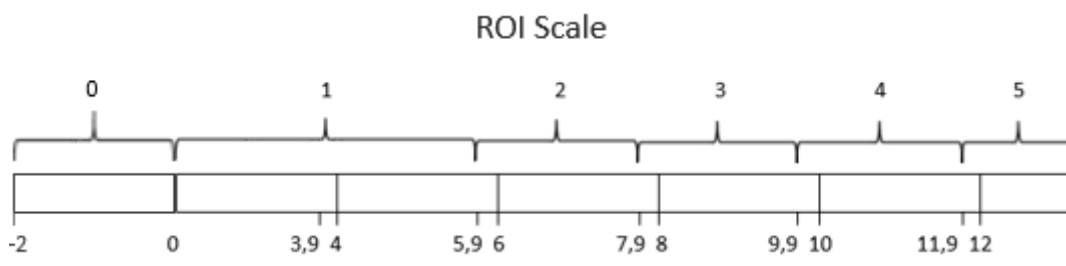


Figure 2: ROI Scale (Source: our elaboration)

First, a four-point target value must be pointed out (10). Subsequently, the scale can be easily constructed by adding or subtracting the echelon value (2). Another important element is the surroundings, which in this case pointed at 10% of the four-point value ($10 * 10 / 100 = 0.1$).

For instance, a firm that records a ROI of 7.8 achieves a score of two points. If the ROI is 7.9, the score obtained is 3.

For example, a performance score assessment is KPI 1: 4 points; KPI 2: 5 points; KPI 3: 3 points; and KPI 4: 4 points.

First, the value of each KPI should be calculated to ensure that it relates to the echelon, allowing for the identification of the KPI score (4, 5, 3, 4). Then, to obtain the dimension score, the KPI scores should be summed. This sum should be divided by the number of the KPI contained in the dimension (4): $(4 + 5 + 3 + 4) / 4 = 4$.

Financial = 4; Internal processes = 3; Market = 5; L & G = 5; Environmental = 4; Social = 4

Finally, once each dimension score is defined (4, 3, 5, 5, 4, 4), they should be summed to calculate the performance score. This sum should be divided by the number of dimensions (6): $(4 + 3 + 5 + 5 + 4 + 4) / 6 = 4.16$

As mentioned, if a firm wants to give more relevance to a specific dimension, a specific weight can be given. For instance, giving a weight of 1.5 to the environmental dimension increases the performance score from 4.16 to 4.5 $(4 + 3 + 5 + 5 + 4 + (4 * 1.5)) / 6$.

CONCLUSION

The Authors use the conceptual theory on sustainability, then they present a framework based on the stakeholder theory-based; Balanced Scorecard coupled with new Triple-Bottom-line related dimensions, specifically introduced to capture, and measure sustainable performance and to develop Sustainable Balanced Scorecard. This study contributes to the current research by designing a system to manage the company's sustainability. The adapted framework differs mainly in terms of the extent of the process stages, adding a new dimension. Of course, the new dimension must be undertaken with a clear knowledge of corporate strategy, and the multi-faceted nature of measuring performance becoming even more complex as internal and external stakeholder expectations about companies' economic, social, and environmental responsibilities change. By their very nature, the processes of companies are sets of interlinked activities, which are difficult to separate in practice. While it is not possible to do the same with all of them, it is possible to use the indicators to identify where the competitive focus of sustainable strategies might be hidden. According to Hannan and Freeman (1977), changes in company (strategic planning, control, structures, and processes) occur due to changes in the environment. As a result, at least some of relationship between company and environment must reflect adaptation behavior or learning. Similarly, sustainable strategy likely transforms in response to external change even if there are several processes that generate structural inertia.

The findings are crucial for both scholars and practitioners because they stimulate scientific discourse on sustainability and strategic management, highlight the challenges expected in company implementation, and provide a certain amount of guidance to other managers and researchers who might consider, improve, or deepen sustainable development. The framework is flexible and can be integrated with a set of indicators that can ensure the continuous monitoring of information and data to provide periodic reports about trends, levels predicted, and sustainability levels considering the sector, type of threat, and geographical area.

This study was part of a larger project *in fieri*. Like all instruments that deal with enterprises' transformations based on processes, this framework must be able to handle any change derived from the evolution of the sector and environment.

Further research is required to provide evidence of the framework's effectiveness. The refinements based on empirical analysis are needed that can be generalized to the entire sustainable management control system. As the present study focused on development of a framework rather than implementation, future research could be directed at issues such as validation of methodology, practicality, and ease of implementation and could also explore how the framework is deployed in companies of different sizes and industries and how it might be needed to be adapted to fit.

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GLOBAL CITIES AND EMERGING MARKET MULTINATIONAL ENTERPRISES: THE SEARCH FOR GLOBAL CITIES-SPECIFIC ADVANTAGES, ESTABLISH AND OWNERSHIPS OF ENTRY MODELS

Kaltenecker, Evodio; Montoya, Miguel A.

Tecnológico de Monterrey, campus Guadalajara, Zapopan, México

ABSTRACT

This manuscript examines the relationship between the Global Cities phenomenon and Foreign Direct Investment from Emerging Market Multinational Enterprises (EMNE). In particular, the research investigates the internationalization choices (ownership and establishment) of EMNE into Global Cities (GC). We conclude that EMNEs from different sectors use the GC, the country of origin of EMNE affects the selection of global cities, and there are preferential entry and ownership modes. Additionally, market-seeking is the main reason for internationalization through GC, not resource-seeking,

Keywords: global cities, FDI, entry modes, emerging market multinationals, multilatinas

INTRODUCTION

Global Cities (GC) are preeminent sites for Foreign Direct Investment (FDI) from transnational enterprises. In a virtuous cycle of mutual reinforcement, world cities such as New York, London, and Paris have taken on a central role as production spaces and conduits for key inputs required by multinationals to operate their international organizations (Chakravarty, Goerzen, Musteen, & Ahsan, 2021). Such subnational regions present economic, political, and ideological influences beyond their physical boundaries and own country.

The International business literature assumes the existence of subnational spatial homogeneity. However, there are more similarities between regions across national borders than within areas of the same country (Hutzschenreuter, Matt & Kleindienst; 2020). Therefore, the connection between local and international makes global cities attractive to multinational companies, which hyper-concentrate investments (FDI) in these locations. Moreover, the large number of APS (that provide technical business-to-business service) and the well-connected infrastructure (high-quality road, rail, airport, and telecommunication infrastructure) are mechanisms that reduce transactional costs for MNEs.

EMNEs encounter liabilities of foreignness (LOF) when entering foreign locations with distinct markets characteristic. However, global cities have more robust, more stable, and business-friendly institutional environments that reduce LOF for foreign firms (Blevins et al., 2016). As a result, MNEs

are attracted to global sites to lower LOF (Belderbos, Du, & Slangen, 2020). In the specific case of emerging market multinationals (EMNE), Meouloud, Mudambi, & Hill (2019) found that EMNE opted to locate in a global city because it provided legitimacy, transportation links, markets, resources, and capital.

The literature of International Business discusses alliances and FDI-related entry modes. Kavusan, Noorderhaven, & Duysters (2016) discussed how alliances are widely acknowledged to facilitate knowledge transfers across firms and permit partnering firms to combine technological capabilities toward joint innovation outcomes through complementary specialization. The researchers found that partnering firms' prior experiences with various alliance partners strengthen these relationships.

This research analyzed FDI from multinationals from Latin America and compared with their choices of cities, entry, and ownership modes to support a better understanding of how EMNE internationalize through global cities,

This article proceeds as follows. The following segment presents the literature review that supports our analysis. The third module develops the research methodology, and the fourth part introduces results. The final three sections report our discussion, conclusions, and implications for practice.

LITERATURE REVIEW

The Nature of Global Cities and FDI

For much of the past five decades, research on cities largely ignored the role of Multinational Enterprises (MNEs), while most of the research on MNEs ignored the part of subnational regions within countries. However, today there is growing interest in the role of cities in shaping and being shaped by the activities of multinational firms (Iammarino, McCann & Ortega-Argilés, 2018). Global Cities (GC) are preeminent sites for Foreign Direct Investment (FDI) from transnational enterprises. In a virtuous cycle of mutual reinforcement, world cities such as New York, London, and Paris have taken on a central role as production spaces and conduits for key inputs required by multinationals to operate their international organizations (Chakravarty, Goerzen, Musteen, & Ahsan, 2021). Such subnational regions present economic, political, and ideological influences beyond their physical boundaries and own country. Therefore, GC present an interesting research topic because the traditional approach of using countries as location units of analysis obscures micro-level drivers that better explain FDI choices (Chakravarty & Beamish, 2019)

The three key attributes that define global cities are the availability of advanced producer services (APS), the cosmopolitan mentality, and the high degree of interconnectedness to local and international markets characteristics (Goerzen, Asmussen & Nielsen, 2013; Estrin *et al.*, 2016). First, these locations are home to many high-value and specialized APS such as consultancy, advertising,

accounting, law, and finance essential to multinational functions that facilitate the operations of international firms. Second, the cosmopolitan environment emanates from its founding conditions and continued development as a high-status location characterized by a culturally diverse population. Third, the high level of physical and digital connectivity with other areas and global cities facilitates and speeds up the international transfer of goods, people, and information. As Asmussen, Nielsen, Goerzen, & Tegtmeier (2018) pointed out, these characteristics appear essential in making global cities distinct from other subnational locations such as mega-cities, characterized by population size and density and economic clusters which are more industry and technology-focused. Moreover, De Falco (2019) recognizes that global and smart cities, yet similar concepts, are not synonymous.

One important characteristic of global cities is their independence from nation-states and policies (Alfasi & Fenster, 2005). The decoupling of national policies allows global city municipal governments to independently develop and implement policies that incentivize and attract more FDI than their nation-states (Alfasi & Fenster, 2005; Ma & Delios, 2007). Additionally, the migration of transnational high-skilled professionals creates attractive consumer markets because of the high density of affluent buyers and tourists with increased consumption and spending levels (Wang, Su, Chen, Chen, & Liang, 2011; Goerzen et al., 2013; Kandogan, 2012). Furthermore, the abundance of skilled workers, innovative companies, and high-quality public and private institutions attract R&D investment by multinational firms (Somers, Du, & Belderbos, 2016; Castellani & Lavoratori, 2019). Finally, the local context's independence and the increasing global convergence make GC unique. Global cities, as subnational regions, bridge supranational and subnational contexts (Chakravarty, Goerzen, Musteen, & Ahsan, 2021).

The International business literature assumes the existence of subnational spatial homogeneity. However, there are more similarities between regions across national borders than within areas of the same country (Hutzschenreuter, Matt & Kleindienst; 2020). Therefore, the connection between local and international makes global cities attractive to multinational companies, which hyper-concentrate investments (FDI) in these locations. Moreover, the large number of APS (that provide technical business-to-business service) and the well-connected infrastructure (high-quality road, rail, airport, and telecommunication infrastructure) are mechanisms that reduce transactional costs for MNEs. Consequentially, Global Cities represent lucrative markets and business environments characterized by a relatively low transaction cost.

Multinational Enterprises and Global Cities

Iammarino et al. (2018) suggest that the current academic debate in international business and globalization has given rise to a new interest in cities and regions, which rediscovered the L in the OLI

paradigm (Dunning, 1981). Additionally, from a managerial perspective, multinational firms expand to global cities to establish subsidiaries to act as bridgeheads to enable further international and subnational expansion (Asmussen et al., 2018). On the one hand, multinational companies encounter liabilities of foreignness (LOF) when entering foreign locations with distinct markets characteristics and sometimes weak institutional environments. On the other hand, Global cities have more robust, more stable, and business-friendly institutional environments that reduce LOF for foreign firms relative to other host country locations (Blevins et al., 2016). As a result, MNEs are attracted to global sites to lower LOF (Belderbos, Du, & Slangen, 2020). In the specific case of emerging market multinationals (EMNE), Meouloud, Mudambi, & Hill (2019) found that EMNE opted to locate in a global city because it provided legitimacy, transportation links, markets, resources, and capital.

Location in Global Cities is attractive because they reduce LOF due to strong economic rationale. Chakravarty, Goerzen, Musteen, & Ahsan (2021) contributed to the stream by presenting location-specific economic grounds for foreign direct investment in GC. The authors suggest that MNE invest in world cities for the following reasons: knowledge-seeking, market-seeking, efficiency-seeking, resource-seeking, and capital-seeking. Moreover, the same researchers found that Foreign Direct Investment of MNEs in global cities occurs primarily due to the first three motives while FDI for EMNE pursues the last two motives.

Internationalization of EMNEs through Global Cities

The study of Global Cities and EMNE requires the understanding of Firm-Specific Advantages (FSA) and Country-Specific Advantages (CSA) (Rugman & Verbeke, 1992). However, global cities offer location-specific advantages that we call Global Cities-Specific advantages (GCSA). Therefore, EMNE (in general) and EMNE (in particular) need to combine their FSAs with location-specific GCSAs, found only in global cities.

Emerging market multinationals also seek strategic assets aggressively from the outset (Kumar, Singh, Purkayastha, et al., 2020). EMNEs search for Country-Specific Advantages (CSA) available in the host country (or at their global cities) to compensate for their lack of strategic assets due to their location disadvantages. Therefore, EMNEs engage in resource recombination when location-bound advantages complement their FSA. Consequentially, emerging multinationals look for global cities to upgrade capabilities because GCs offer substantially different environments from the MNEs' home countries.

Additionally, EMNE first expands into global cities to seek legitimacy, which will support firms' growth into other markets. Meouloud, Mudambi, & Hills (2019) support this argument in their study of African multinationals' expansion into Paris to assemble resources and build legitimacy to continue their internationalization effort, often back to neighboring countries in Africa.

Upgrading of Capabilities

Cuervo-Cazurra & Genc (2011) suggest that location matters regarding capabilities' development and upgrading. The authors develop the idea that MNE and EMNE present different non-market advantages because they are rooted in a different home country environment, which differs markedly for MNEs and EMNEs. Regarding multinationals from advanced economies, Lorenzen, Mudambi & Schotter (2020) posit that MNEs dynamically leverage and actively co-create location-specific advantages. For the specific case of multinationals from emerging markets, Cuervo-Cazurra & Montoya (2018) suggested four strategies for EMNEs to upgrade their capabilities towards international levels. First is the upgrading via improvement of processes, when firms focus on achieving excellence for the local markets. In this case, firms become multinationals due to the upgrading process. Second is the upgrading via inspiration, which occurs when these firms improve products and services for the local markets. In this case, internationalization happens because the firm takes the new products/services abroad. Third, the upgrading via integration, when firms enhance their production processes by introducing ideas from other foreign and domestic companies and enabling them to enter other countries, bringing a better understanding of production processes and using domestic brands to facilitate market penetration. Finally, upgrading capabilities via innovation occurs when firms create new products/services to fill unmet needs globally (Table 1). We will discuss later in the manuscript that global cities facilitate the upgrading of capabilities of EMNE.

Table 1 – EMNE strategies for upgrading capabilities in Global Cities

		Locus of upgrading	
		Process	Product
Focus of Upgrading	Local	Improvement	Inspiration
	Global	Integration	Innovation

Source: Cuervo-Cazurra & Montoya (2018)

Global Cities: the loci for upgrading of capabilities for EMNE

Cuervo-Cazurra & Montoya (2018) developed a model of the leading drivers of the internationalization of EMNE (Figure 1). The model integrates the internal factors such as firm-specific advantages (FSAs) and external factors such as country-specific advantages (CSA) and industry regulation on the firms' internationalization. The model's starting point is the home country, which influences the firm company through the (limited) provision of skilled workforce, regulatory framework, infrastructure, and sophisticated technologies. These four factors (emerging home country, managers, industry, and company) influence the ability of the company to upgrade capabilities, which in turn affects internationalization. (Cuervo-Cazurra & Montoya, 2018). The model explains how the international expansion of an EMNE is contingent on its ability to upgrade competitive capabilities to international levels. However, the model uses the national context as the

source of advantages, and the emergence of global cities shows the importance of adding an extra layer to the model. However, the original model does not evaluate the influence of world cities in the entry model of multinationals. Blevins et al. (2016) explained that the decision between an acquisition versus a strategic alliance is more likely to occur when a global city hosts the target firm. Therefore, there is an opportunity for the improvement of Cuervo-Cazurra's and Montoya's theoretical model

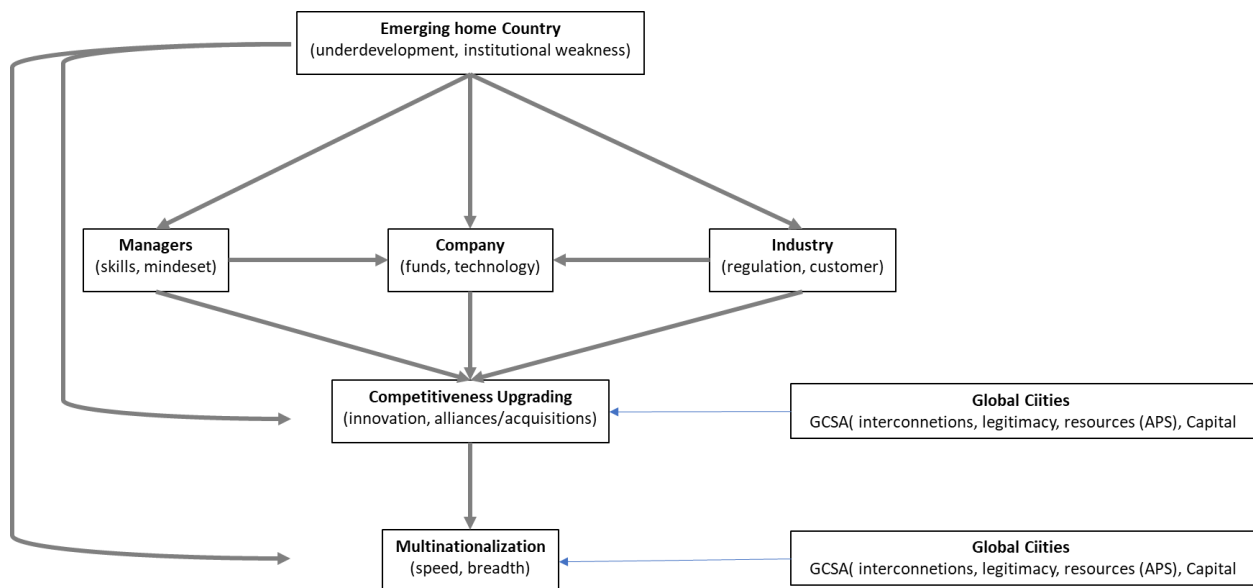
Figure 1 – MNE foreign market penetration in Global Cities - Wholly-owned affiliates versus Alliances

		Targeted FSA	
		Location-bound complements to extant FSA bundles	Non-location-bound complements to extant FSA bundles
Entry Mode	Wholly-owned subsidiary	Investments to develop location-bound FSA (1)	Investments to develop internationally exploitable FSAs and SSAs (3)
	Alliance	Access to location-bound FSAs through alliance (2)	Access to – or joint creation of - internationally exploitable FSAs and ASAs (4)

Key:
 SSAs Subsidiary-specific advantages
 ASAs Alliance-specific advantages

Source: Blackwell, DSouza, Taghian, Miniard, & Engel (2013)

Consequently, we suggest the new model presented in Figure 2. The novel framework includes the impact of Global Cities-Specific Advantages (GCSA) in competitiveness upgrading and multinationalization. Among some particular advantages offered by GCSA, we have legitimacy, markets, resources, and capital (Meouloud, Mudambi, & Hill (2019), lower LOF (Belderbos, Du, & Slangen, 2020), the interconnection between local and global markets characteristics (Chakravarty, Goerzen, Musteen, & Ahsan, 2021; Goerzen, Asmussen & Nielsen, 2013), and a preferential locus of FDI (Alfasi & Fenster, 2005; Ma & Delios, 2007)

Figure 2 – Global Cities and the EMNE

Source: Authors, based on Cuervo-Cazurra & Montoya (2018)

Entry Models: Establishment and Ownership

Chakravarty et al. (2021) found that entry modes have not focused on global cities research. However, the literature of International Business discusses alliances and FDI-related entry modes. Kavusan, Noorderhaven, & Duysters (2016) discussed how alliances are widely acknowledged to facilitate knowledge transfers across firms and permit partnering firms to combine technological capabilities toward joint innovation outcomes through complementary specialization. The authors found that partnering firms' prior experiences with various alliance partners strengthen these relationships. This finding is confirmed by whose work on target-country experience supported the hypothesis that firms can limit the LOF between their home country and a target country more efficiently by investing in a global city in the target country rather than elsewhere in the country. It is important to note that any FDI-related decision is subject to many factors that may not stay the same over time.

RESEARCH METHODOLOGY

To evaluate the global cities phenomenon regarding the Emerging Markets Multinational Enterprises from Latin America (multilatinas), we identified the location choices regarding global cities of the 100 largest companies from Latin America. The data source is the America Economia 2021 ranking (AméricaEconomía, 2021). Furthermore, we used the Globalization and World Cities 2020 Report (Globalization and World Cities Research Network, n.d.) as the data source for global cities. Therefore, we researched the location choices (country and city) for each entry and the category of world global cities. Additionally, the authors investigated three variables regarding the entry mode: establishment

(acquisition of greenfield), ownership (joint-venture or wholly-owned subsidiary), and reasons for the internationalization (knowledge-seeking, market-seeking, efficiency-seeking, resource-seeking, and capital seeking). This research studied the FDI outflows from 2000 and beyond and does not consider the acquisitions, greenfield projects, joint-ventures, and wholly-owned subsidiaries that their parent company discontinued.

Furthermore, we analyzed focused on the multinationals from Brazil, Mexico, Argentina, Colombia, and Chile, Latin America's five largest economies. Finally, we considered three classifications for GC: the Alpha (from Alpha ++ to Alpha-), the Beta (from Beta+ to Beta-), and the Gamma cities (from Gamma+ to Sufficient cities). The FDI in non-global cities is counted with those in Gamma cities because this is the segment with cities with low levels of connectivity.

Table 2 presents the foreign direct investment made by the Latin American multinationals, per country, level of the global city, and economic sector. The results of the FDI per country, city level, and types of entry mode (acquisitions or greenfield) are available in Table 3. The results of the FDI per country, city level, and kind of ownership modes (joint ventures or wholly-owned subsidiary) are available in Table 4. Table 5 presents the entry and ownership modes and the global city level for each country analyzed in this research. Finally, Table 6 represents the reason for internationalization and global cities' level. Occasionally, there was more than one reason for the use of global cities.

Table 2 – Global cities classification vs. economics sectors

		Primary	%	Secondary	%	Tertiary	%	Total	%
Alpha	Brazil	2		15		12		29	
	Mexico			12		10		22	
	Argentina					9		9	
	Colombia					5		5	
	Chile					9		9	
Total		2	3%	27	36%	45	61%	74	100%
Beta	Brazil	1		8		5		14	
	Mexico			4		16		20	
	Argentina					4		4	
	Colombia					7		7	
	Chile					25		25	
Total		1	1%	12	17%	57	81%	70	100%
Gammas	Brazil	7		89		6		102	
	Mexico			49		15		64	
	Argentina					2		2	
	Colombia					1		1	
	Chile					12		12	
Total		7	4%	138	76%	36	20%	181	

Source: Authors

RESULTS

Table 2 presents the distribution of FDI in the three sectors of the economy. Firms in the tertiary segment originated sixty-one percent of total FDI in Alpha cities. At the same time, the exact figure is 36% for Secondary-sector firms and only 3% for Primary-sector companies. Tertiary firms also lead FDI in the Beta cities, with 81% of total FDI, followed by 17% of Secondary-firms and only 1% of Primary firms. However, an inflection point happens with Gamma cities, attracting 76% of FDI to the secondary sector, while the Tertiary and Primary sectors follow with 20% and 4%, respectively.

The acquisition is the preferred entry mode for multinationals in global cities, in Alpha (73%), Beta (84%), and Gamma (77%) cities, as presented in Table 3.

Table 3 – Global cities classification vs. entry modes

		Acquisition	%	Greenfield	%	Total	%
Alpha	Brazil	15		14			
	Mexico	19		3			
	Argentina	7		2			
	Colombia	5					
	Chile	8		1			
Total		54	73%	20	27%	74	100%
Beta	Brazil	10		4			
	Mexico	18		2			
	Argentina	4					
	Colombia	7					
	Chile	20		5			
Total		59	84%	11	16%	70	100%
Gammas	Brazil	73		29			
	Mexico	56		8			
	Argentina	2					
	Colombia	1					
	Chile	7		5			
Total		139	77%	42	23%	181	100%

Source: Authors

Table 4 shows the wholly-owned subsidiary the preferred ownership model for FDI in Alpha (72%), Beta (67%), and Gamma cities and below (70%).

Table 4 – Global cities classification vs. Ownership models

		Joint-Ventures	%	Wholly-Owned Subsidiary	%	Total	%
Alpha	Brazil	5		24			
	Mexico	14		8			
	Argentina	1		9			
	Colombia			5			
	Chile	1		8			
Total		21	28%	54	72%	75	100%
Beta	Brazil	2		12			
	Mexico	18		2			
	Argentina	2		1			
	Colombia			7			
	Chile	1		24			

Total		23	33%	46	67%	69	100%
Gammas	Brazil	18		84			
	Mexico	35		29			
	Argentina			2			
	Colombia			1			
	Chile	1		11			
Total		54	30%	127	70%	181	100%

Source: Authors

Table 5 presents a country-level analysis of the FDI. The table shows that the acquisition entry mode and whole-owned subsidiary ownership model are predominant modes in all countries. However, the use of acquisition and JVs tend to be similar or more predominant in Argentina (87% and 80%), Colombia (100% and 100%), and Chile (76% and 93%), respectively.

Table 5 – Multinationals and Global Cities

		Acq	%	G	%	Total	JV	%	WOS	%	Total
Brazil	Alpha	15	52%	14	48%	29	5	17%	24	83%	29
	Beta	10	71%	4	29%	14	2	14%	12	86%	14
	Gamma	73	72%	29	28%	102	18	18%	84	82%	102
Brz Total		98	68%	47	32%	145	25	17%	120	83%	145
Mexico	Alpha	19	86%	3	14%	22	14	64%	8	36%	22
	Beta	18	90%	2	10%	20	18	90%	2	10%	20
	Gamma	56	88%	8	13%	64	35	55%	29	45%	64
Mex Total		93	88%	13	12%	106	67	63%	39	37%	106
Argentina	Alpha	7	78%	2	22%	9	1	11%	8	89%	9
	Beta	4	100%			4	2	50%	2	50%	4
	Gamma	2	100%			2			2	100%	2
ArgTotal		13	87%	2	13%	15	3	20%	12	80%	15
Colombia	Alpha	5	100%			5			5	100%	5
	Beta	7	100%			7			7	100%	7
	Gamma	1	100%			1			1	100%	1
Col Total		13	100%	0	0%	13	0	0%	13	100%	13
Chile	Alpha	8	89%	1	11%	9	1	11%	8	89%	9
	Beta	20	80%	5	20%	25	1	4%	24	96%	25
	Gamma	7	58%	5	42%	12	1	8%	11	92%	12
Chi Total		35	76%	11	24%	46	3	7%	43	93%	46
Grand Total		252	78%	73	22%	325	98	30%	227	70%	325

Table 6 shows that market-seeking is the main reason that drives FDI from multinationals into global cities for all three levels of GC (82% of FDI movements), followed by knowledge-seeking (9%) and efficiency-seeking (8%). However, the analysis of the FDI per type of global city shows the difference in institutional environment between Alpha, Beta, Gamma, and non-connected cities. For example, in

Alpha cities, knowledge-seeking responds to 19% of the FDI in Global Cities, more than double 9% in the aggregate data set.

Table 6– Global cities classification vs. Reasons of internationalization

		Ks	%	Ms	%	Es	%	Rs	%	(Cs	%	Total
BRZ	Alpha	5		28		2		2				37
	Beta			14								14
	Gamm a	2		102		6		1				111
Sub		7		144		8		3				162
MEX	Alpha			22		6						28
	Beta			20								20
	Gamm a			64		3						67
Sub		0		106		9		0				115
ARG	Alpha	9		9		9						27
	Beta	4		4		4						12
	Gamm a	2		2		2						6
Sub		15		15		15		0				45
COL	Alpha			5								5
	Beta			7								7
	Gamm a			1								1
Sub				13		0		0				13
Chi	Alpha	7		9								16
	Beta	4		25								29
	Gamm a	3		12								15
Sub		14		46		0		0				60
Total	Alpha	21	19%	73	65%	17	15%	2	2%		0%	113
	Beta	8	10%	70	85%	4	5%	0	0%		0%	82
	Gamm a	7	4%	181	91%	11	6%	1	1%		0%	200
Total		36	9%	324	82%	32	8%	3	1%	0	0%	395

Source: Authors' development

DISCUSSION

Table 2 shows the predominance of the firms from the tertiary sector in selecting global cities as destinations of FDI, both in Alpha (61%) and Beta cities (81%). These results confirm the literature about the intrinsic connectedness of global cities, which is a phenomenon suited for companies that deliver sophisticated services, such as IT consulting. Furthermore, table 2 confirms Cuervo-Cazurra & Genc (2011), who proposed that location (in the form of institutional distance) can provide firms with

competitive advantages, and Martin (2014). They addressed the institutional benefits brought by GC. Finally, multilatinas' use of GC confirms Bustamante, Matusik & Benavente (2021), who claimed that multinationals pursue positive institutional distance (i.e., internationalizing to a host country where institutions are more robust than those in the home country).

Table 2 also points out that the secondary sector does not take full advantage of institutional distances as internationalization does not require genuinely global cities. Instead, locations with limited connectivity (Gamma cities) or no connectivity are the preferred location for Secondary sector FDI. This fact happens because of the very nature of the Secondary segment (manufacturing), which invests in plants and locations far from the sophisticated and expensive global cities. Finally, Table 2 shows that the multinationals from the smaller economies (Argentina, Colombia, and Chile) take full advantage of the GC phenomena.

Table 3 shows that acquisitions are the preferred entry mode of multilatinas in global cities, regardless of the level of connectivity of the GC. Initially, this result could be considered unexpected because of their interconnectedness presented by GCs, which would allow the easy establishment of greenfield projects. However, the high availability of advanced producer services (Goerzen, Asmussen & Nielsen, 2013; Estrin *et al.*, 2016) mitigates the acquisition risk for multilatinas, making acquisition the preferred entry mode multinationals of emerging markets in cosmopolitan cities.

The very nature of the global cities and their three main characteristics explain why Wholly-Owned Subsidiary (WOS) is the preferred mode of ownership, according to the data in Table 4. The positive institutional distance between home and host countries (Kostova *et al.*, 2020), the interconnection offered by GC, and the impressive availability of advanced producer services (APS) allow the mitigation of risk in the acquisition of firms by EMNE while increasing the odds of survival of internationalizing ventures.

The country-level perspective available in Table 5 confirms that acquisition is the preferred entry mode regardless of the country of origin. Furthermore, this finding confirms that the positive institutional distance between Latin American countries and the sub-national regions environments (offered by GC) is very high.

Mexico provides an exception regarding ownership models because of its particular trade and FDI relationship with the USA (Montoya *et al.*, 2019). Strong connections link the Mexican to the US economy, decreasing the institutional distance between the two countries. Consequentially, Mexican multinationals leverage their knowledge about the US economy and companies, pursuing more JVs with US firms than their Latin American counterparts.

Knowledge- and efficiency-seeking, the common reasons for internationalization through global cities, are not as relevant when analyzing the aggregate data set of FDI. In the case of Latin American

multinationals, market-seeking is the main driver for using the institutional environment offered by GC. However, the percentage of market-seeking in Alpha cities (19%) is higher than that of market-seeking (9%) of the aggregate set. Moreover, the same effect occurs for efficiency-seeking, which percentage for Alpha cities is 15% compared to 8% of the sample. We conclude that the highly-connected subnational regions (Alpha locations) attract the few multinationals that operate in industries that benefit the most from GC. Examples of these service industries are IT, consulting, financial services, and airlines. For such companies born and raised in commodity-exporting countries, the chances of survival in sophisticated markets are minimal. Therefore, such firms prefer Alpha cities over Beta and Gamma to (i) improve knowledge, (ii) increase efficiency, and (ii) increase their chances of a successful internationalization. New knowledge and improved efficiency are examples of location-specific capabilities (Global City Specific Advantage) that can translate into firm-specific advantages. Consequently, FDI through Alpha locations are decisions to increase the odds of survival of internationalizing ventures from firms with large institutional distances (Denk et al., 2012; Trąpczynski & Banalieva, 2016; Bustamante et al., 2021).

CONCLUSIONS

Tertiary sector multilatinas predominantly internationalize through Alpha and Beta cities. In contrast, secondary sector multinationals internationalize through Gamma or non-global cities. Therefore, we *accept* the first hypothesis of this research. *H1: Multinationals from different segments use different levels of global cities.*

Country of origin affects the selection of global cities. For example, the data set suggests that firms from Brazil and Mexico use indistinct levels of GC while Argentine, Colombian, and Chilean firms preferentially use Alpha cities. Therefore, we *reject* the second hypothesis H2: *The country of origin does not affect the selection of global cities.*

Acquisitions are the preferred mode of entry for multilatinas. Therefore, we *reject* the third hypothesis H3: *Multilatinas present no preferential entry mode in Global Cities.*

Our research suggests that Wholly-Owned subsidiaries are the preferential ownership model adopted by multilatinas through global cities. This information allows the rejection of the fourth hypothesis. *H4: Multilatinas present no preferential ownership model in Global Cities*

The country of origin of the multilatinas presented no impact in the selection of entry mode because Acquisitions were the preferred entry choice in all countries. As a consequence, we *accept* the fifth hypothesis. *H5: Country of Origin presents no impact in Entry Mode selection.*

Due to the solid nature of its economic ties with the US, Mexico is an exception to other Latin American countries regarding ownership modes. Therefore, we reject the sixth hypothesis. *H6: Country of Origin presents no impact in the selection of ownership mode.*

Our research showed that marketing-seeking is the main reason for using global cities. Therefore, we reject the seventh hypothesis *H7: resource-seeking is the main reason for the internationalization of multilatinas through global cities.*

Finally, our data showed that the main reason for internationalization through Alpha cities is market-seeking. Therefore, we accept the eighth hypothesis: *H8 Multilatinas internationalize through Alpha cities because of market-seeking.*

IMPLICATIONS FOR PRACTICE

Through this article, we contribute to both theory and practice. We make a significant theoretical contribution by showing that multilatinas take advantage of the positive institutional distances between their home country and global cities. However, we also noted that resource-seeking and efficiency-seeking are very limited, and the main driving force for FDI in interconnected cities is market seeking. This information shows that EMNEs do not take full advantage of the availability of advanced producer services (APS), the cosmopolitan mentality found in GC, and the high degree of interconnectedness to local and international markets characteristics. Consequentially, EMNEs are in the initial phases of using global cities as internationalization *loci*.

Practitioners will also benefit from this research because acquisitions are the most common entry mode for EMNEs through global cities. Moreover, we also that wholly-owned subsidiaries are the most common ownership model. Finally, our manuscript advocates that service-oriented EMNEs, such also IT and financial services, should focus on Alpha cities to take full advantage of the business environment of locations with high interconnectedness. These pieces of information allow a road map for the internationalization of multilatinas through global cities.

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ORGANIC FOOD DECISION MAKING SEGMENTATION: PRELIMINARY FINDINGS

Kamenidou, Irene (Eirini)¹; Stavrianea, Aikaterini²; Mamalis, Spyridon¹; Gkitsas, Stergios³;

Pavlidis, Stavros¹

¹Dept. of Management Science and Technology, International Hellenic University, Kavala, Greece

²Dept. of Communication and Media Studies, National and Kapodistrian University of Athens, Athens, Greece

³Dept. of Sciences & New Technologies - Primary Education, Aristotle University of Thessaloniki, Thessaloniki, Greece

ABSTRACT

This paper aims to segment consumers based on their decision-making styles of organic food using the consumer style inventory. A mixed method of data collection (online and personal interviews) delivered a sample of 3296 consumers over eight months (April to September 2021). Data analysis with SPSSv.27 employed basic statistics, factor analysis, and K- means cluster analysis. Seven dimensions of consumer decision making styles were produced with factor analysis, namely, “Ecological and health consciousness”; “Brand and novelty consciousness”; “Perfectionism, high-quality consciousness”; “Product category interest”; “Confused by over-choice consumer”; “Habitual, brand-loyal consumer”; and “Price conscious, ‘value for money’ consumer”. Based on these dimensions four distinct market segments were produced, namely the “Organic Food-Conscious Consumers”, the “Health-Conscious Motivated Organic Food Consumers”, the “Unconcerned Consumers”, and the “Non-Organic Food Consumers”. Based on the results marketing implications are discussed. The results of this study shed light on the decision-making styles toward organic food and offer implications for the marketing managers in order to target each group of consumers effectively.

Keywords: organic food, consumer attitudes, consumer decision-making style, segmentation, sustainable food consumption, communication, marketing

INTRODUCTION

The aim of this study is to explore consumer decision-making (CDM) in connection with organic food using the consumer style inventory (CSI) and to segment consumers upon the dimensions of their CDM.

Sustainability in the food sector is of continuous interest with many academics focusing on different areas of it (eg., Galati et al., 2020; Iazzi et al., 2022). In the literature, sustainability and sustainable food

consumption (SFC) are associated with organic food (Lazaroiu et al., 2019; Vega-Zamora et al., 2019). Organic products present consumers with a dual challenge. They must consider the benefits of the food they buy and the appropriate production methods (Thøgersen, 2010). Organic food consumption (OFC) is gaining constantly interest from consumers due to sustainability and health issues. Firstly, organic food (OF) is a sustainable practice benefiting the environment from chemical residues used in conventional farming (AQIS, 1998 in Lea and Worsley, 2005; Hansen et al., 2018; Nosi et al., 2020), secondly, it is perceived as healthier (Gustavsen and Hegnes, 2020; Petrescu and Petrescu-Mag, 2015; Van Huy et al., 2019) for the human body due to less artificial substances included.

According to the Food and Agriculture Organization of the United Nations (2010), sustainable diets are those “with low environmental impacts which contribute to food and nutrition security and healthy life for present and future generations. They are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy, while optimizing natural and human resources”. This definition is consistent with the production methods and characteristics of organic food (Seconda et al., 2017).

The growing demand for SFC and OF has consequently triggered the interest of academics and a substantial amount of research has been implemented in this field, especially regarding consumer behavior (e.g., Aertsens, et al., 2009; First and Brozina, 2009; Le and Nguyen, 2022; Vindigni et al., 2002). Moreover, the way consumers make their decisions is very important to marketers because it defines the marketing communication and implication programs that they will develop. Additionally, it characterizes the relative government actions for consumer awareness programs and social marketing campaigns.

CDM has been a focal point of consumer behavior research. Sproles and Kendall (1986) developed a scale/inventory for profiling consumers' decision-making styles (CDMS). They described the styles by which consumers handle their purchasing-choice procedure concerning issues from information searching to final purchase; known as the consumer styles inventory (CSI).

The use of the CSI has been used in different settings, such as in general purchasing, apparel, services, and (some in) food, though for organic food and CDMS it is an extremely understudied issue (three studies have been found). Therefore, this research taking into account the gap in organic food research in connection with CDMS aspires to reduce this gap.

The organization of this paper has as follows. Subsequently, the literature review and the methodology will be presented, followed by the results, discussion, implications, and conclusion of the paper. Lastly, the limitations and the directions for further research are offered.

LITERATURE REVIEW

Sproles and Kendall (1986, p. 268) state “A consumer decision making style is defined as a mental orientation characterizing a consumer’s approach to making choices. It has cognitive and affective characteristics (for example, quality consciousness and fashion consciousness). In essence, it is a basic consumer personality, analogous to the concept of personality in psychology.” According to Hanzaee (2011 in Prakash et al., 2018), CDM has been studied under three different approaches, the consumer typology approach, the psychographics/lifestyle approach, and the consumer characteristics approach; the last being the most powerful and descriptive than the other two because it emphasizes on customers' mental orientation (Lysonski et al, 1996).

Sproles and Kendall (1986, p.269) in studying CDM developed the Consumer Styles Inventory (CSI), which includes eight dimensions of CDM, i.e., “Perfectionism or high-quality consciousness”, “Brand consciousness”, “Novelty-fashion consciousness”, “Recreational, hedonistic shopping consciousness”, “Price and “value for money” shopping consciousness”, “Impulsiveness, Confusion from overchoice (from a proliferation of brands, stores, and consumer information, for example)”, and “Habitual, brand-loyal orientation toward consumption”.

The CSI has been broadly applied in different topics of consumer behavior, such as in general product purchasing (Eom et al., 2020; Haron and Chinedu, 2018; Nayeem and Marie-IpSooching, 2022; Suryawan and Yugopuspito, 2022), apparel (Appiadu et al., 2021; Musasa and Moodley, 2020), and services (Adeleke et al., 2019; Sarkar et al., 2019). Food and CDMS are relatively understudied (e.g., Anić et al., 2014; Denegri et al., 2021; Kantatasiri et al., 2015; Usman et al., 2021; Worsley and Skrzypiec, 1998), even more focusing on organic food (Rathna and Sumathy, 2022; Ceylan and Alagöz, 2020; Prakash et al., 2018).

Rathna and Sumathy (2022) explored the CDMS in the organic food category (N=534; India) employing a modified version of Sproles and Kendall’s (1986) CSI instrument with the addition of four constructs “environmental awareness”, “health concerns”, “longevity of life”, and “high nutritional value”. Using SEM for analysis, they found that from the twelve CDMS tested, seven -including both new styles added- described significant effects on consumers’ organic food purchase intention. Through SEM, they found that “quality, brand, loyalty, better experience while shopping, the longevity of life, and price influenced the consumers’ intention to purchase organic food” (Rathna and Sumathy, 2022, p.520). They did not proceed to segmentation analysis.

Ceylan and Alagöz, (2020) analyzed the organic food CDMS in Tukey of 437 consumers and the results showed that “perfectionism, price orientation, shopping without thinking and habit affect organic food buying”. They also found differences in organic food purchase CDMS with their demographic characteristics. They did not proceed to segmentation analysis.

Prakash et al. (2018) explored the CDMS in the organic food category (N=527; India) employing a modified version of Sproles and Kendall's (1986) CSI instrument with the addition of two constructs "environmental consciousness" and "health consciousness". Using SEM for analysis, they found that from the ten CDMS tested, seven -including both new styles added- described significant effects on consumers' organic food purchase intention. They did not proceed to segmentation analysis.

In the following table, the research that was found referring to CDMS and food are presented. From Table 1 it is obvious that the subject of segmentation based on organic food CDMS is understudied and for so, further study on the issue is needed.

Authors	Issue investigated	Country/Data	Segm/tion
Usman et al. (2021)	The influence of Muslims' CDMS on behavior to buy halal certified food Not organic food-related	Indonesia N=396	☒
Musika (2018)	Develop and validate a green CSI scale & investigate green CDMS Not organic food-related	New Zealand & Tanzania N=448	☒
Demirgüneş & Özsaçmacı (2017)	Effects of CDMS on buying national and store brand food products Food in general Not organic food-related	Turkey N=400	☒
Nayeem & Casidy (2015)	The DMS of Australian consumers for food and non-alcoholic beverages Food in general Not organic food-related	Australia N=214	☒
Peng et al. (2015)	DMS of college-age diners Not organic food-related	USA N=257	☒
Kantatasiri et al. (2015)	CDMS towards environmentally- friendly food products Not organic food-related	Thailand N=269	☒
Anić et al. (2014)	The impact of demographic variables and food product involvement (FPI) on food-related CDMS Food in general Not organic food-related	Croatia N=450	☒
Thomas et al. (2013)	"Identify consumer shopping behavior and classify consumers into segments based on their food shopping behavior" Food in general Not organic food-related	USA N=490	"Diverse"; "value-loyal"; "emotional"; and "high conscious consumers"
Hollywood et al. (2007)	propose that the utilisation of consumer purchase motivation and decision-making models can help identify specific customer clusters to improve marketing strategy Liquid milk category Not organic food-related	Northern Ireland. Did not proceed with the research	☒

Table 1. CDMS and food

METHODOLOGY

For data collection purposes, a questionnaire was used which was based on the work of Prakash et al. (2018) and Anić et al. (2014). The items were then cross-checked by a follow-up qualitative research employing face-to-face informal discussions with 14 people of various ages (18-74 years old). Moreover, a pilot test was realized online and face to face resulting in a sample of 238 participants excluded from the final sample and revealing small changes in wording and stating of some questions (the last question requested feedback on the questionnaire regarding difficulties in comprehension).

As for the answers to the statements/items a 7-point Likert scale was used. The 7-point Likert scale had the following options "1 = Completely disagree; 2= disagree; 3= somewhat disagree; 4 = neither disagree nor agree (i.e., the neutral point); 5=somewhat agree; 6=agree; and 7 = Completely agree." Total reliability of scale $\alpha=0.920$ for the CDMS, and the future purchase intention $\alpha=0.910$.

A nonprobability sampling technique (convenient sampling) was applied and both online and face-to-face collection of data was utilized (Lee et al., 2017; Perry et al., 2014). The online questionnaire was developed in Google.docx and the link was distributed to friends and acquaintances who were asked to also pass it on to other people in order to participate in the survey. Also, in this research, students (N=142) enrolled in the marketing research class after being trained and obtaining a bonus upon their grade assisted in data gathering. The data collection process (online and face to face) was done over six months (April to September 2021). This resulted in a sample of 3296 which were more than adequate for the statistical analysis to be employed (Lehman et al., 1998).

RESULTS

Sample profile

The valid number of observations for analysis was N=3296, of which 51.3% were male and 48.7% were female subjects. Age ranged from 18-92 years old, with the mean age being 43.27 (StD=19.78). On an equal basis were both single and married participants (43.3% and 43.7% respectively) and 13.0% were divorced or widowers, while 28.6% had children (<18 years old) in their household. As to the level of education, 10.2% had primary education; 34.3% had secondary or post-secondary education, and 54.5% were university students or held at least a university degree. As to occupation, 56.9% had an occupation that was salary based on (e.g., employee or on pension); 13.7% were businessmen; 16.9% were university students, and the rest (12.5%) dependent on others. Lastly, as to net personal income, 71.0% have income up to 1000.00€, 24.0% income ranging from 1000.01-2000.00€, and the rest 5.0% more than 2000.01€.

Consumer decision making style

Table 1 presents the consumer decision making style in percentages (%), mean values (MV), standard deviation (StD), and medians (Md). Table 1 provides the following information. First of all, no MV is >5.20, with $2.90 < MV < 5.20$, and no median is 6 or 7 on the attitude scale. Therefore, the most positive attitude is “somewhat agree”. The statement with the higher MV thus the most positive attitude is towards the statement “The balance of nature is very delicate and can be easily upset” ($MV=5.19$), while the statement with the lowest MV is “I usually buy latest available organic food” ($MV=2.92$). Also, from the 31 statements of CDMS, three have $Md=3$; 16 have $Md=4$, and 12 have $Md=5$. Organic food purchase intentions (FPI) measured on a 7-point Likert scale revealed that participants tend to somewhat agree that they will purchase organic food, while MV for the three statements concentrate around the answer 5 of the Likert scale ($4.75 < MV < 5.00$); medians = 5.00.

Factor analysis

The 33 items that were tested were factor analyzed with varimax rotation (Table 2) produced seven factors ($KMO=.910$; $BTS=62490.072$; $df=465$; $p<.001$), which interprets 69.4% of total variance. seven factors derived which were named as following (based on the initial dimension item used): Ecological and health consciousness (EHC: 13.8% TV; $MFS=4.92$; $StD=1.27$); Brand and novelty consciousness (BNC: 13.4%; $MFS=3.49$; $StD=1.23$); Perfectionism, high-quality consciousness (PHC: 11.0%; $MFS=4.72$; $StD=1.30$); Product category interest (10.1%; $MFS=4.14$; $StD=1.63$); Confused by over-choice consumer (CBC: 9.1%; $MFS=4.07$; $StD=1.19$); Habitual, brand-loyal consumer (HBC: 6.0%; $MFS=4.15$; $StD=1.32$); and Price conscious, ‘value for money’ consumer (PCC: 6.0%; $MFS=4.59$; $StD=1.23$). Moreover, the measurement of future purchase intention (FPI) provided with one dimension with loadings 0.908-0.935, explaining 84.4% of total variance, and $MFS=4.87$ ($StD=1.50$).

Items/dimensions	1	2	3	4	5	6	7	MV	StD	Md
“Getting very good quality is very important for me”			.754					4.90	1.65	5.0
“When it comes to purchasing organic products, I try to get the very best or the perfect choice”;			.825					4.82	1.64	5.0
“In general, I usually try to buy the best overall quality”			.810					5.11	1.48	5.0
“I make a special effort to choose the very best quality organic food products”;			.702					4.48	1.63	5.0
“My standards and expectations for products I buy are very high”			.584					4.27	1.61	4.0
“I prefer buying well-known national brands”		.732						3.82	1.64	4.0
“The most expensive brands are usually my choice”		.767						3.44	1.58	3.0

"I prefer to buy the best-selling brands"		.816						3.60	1.59	4.0
"The most advertised brands are usually very good choices"		.827						3.38	1.54	3.0
"I usually buy latest available organic food"		.758						2.92	1.59	3.0
"I keep my kitchen up to date with the organic food products"		.604						3.65	1.62	4.0
"It is very important to me to buy food products that are in line with trends"		.613						3.62	1.73	4.0
"I try to buy organic food products at sale prices"						.710		4.43	1.59	5.0
"I usually choose lower priced products"						.829		4.24	1.56	4.0
"I look carefully to find the best value-for-money"						.637		5.11	1.52	5.0
"There are so many brands to choose from that often I feel confused"				.799				3.88	1.57	4.0
"Sometimes it is hard to choose which stores to shop"				.781				3.78	1.61	4.0
"The more I learn about organic food items, the harder it seems to choose the best"				.781				3.87	1.62	4.0
"All the information I get on different products confuses me"				.805				3.80	1.64	4.0
"I have favorite brands that I buy over and over"					.756			4.44	1.67	5.0
"Once I find a brand I like, I stick with it"					.778			3.94	1.66	4.0
"I go to the same store each time I shop for organic food products"					.619			4.10	1.61	4.0
"In general, I have a strong interest in this product category"			.773					4.05	1.71	4.0
"Food products are very important to me"			.767					4.16	1.73	4.0
"Food products matter a lot to me"			.759					4.20	1.76	4.0
"The balance of nature is very delicate and can be easily upset"	.642							5.19	1.56	5.0
"I have switched products for ecological reasons"	.546							4.25	1.64	4.0
"When I have a choice between two equal products, I purchase the one less harmful to other people and the environment"	.723							4.96	1.60	5.0

"I choose food carefully to ensure better health"	.810							5.02	1.54	5.0
"I consider myself as a health-conscious consumer"	.835							4.95	1.57	5.0
"I think often about health-related issues"	.815							5.11	1.52	5.0

Table 2. *Dimensions of organic CDMS**Segmentation*

The seven dimensions derived from factor analysis as well as FPI were continuously treated as new variables (their mean factor scores-MFS were used in the analysis) in order to segment consumers based on their DMS. Cluster analysis with these eight variables produced four segments (Table 3). ANOVA statistics revealed that all eight dimensions contributed to the statistical difference in the four clusters' behavior. It is pointed out that in the columns CI1-CI4 the numbers represent the final cluster centers (FCC).

CDMS dimensions and FPI	CI 1 N=1296	CI 2 N=984	CI 3 N= 544	CI 4 N=472	F	p
Ecological and health consciousness (EHC)	4.44	5.96	5.69	3.22	1446.272	.000
Brand and novelty consciousness (BNC)	3.54	4.38	2.66	2.44	552.572	.000
Perfectionism, high-quality consciousness (PHC)	4.24	5.50	5.49	3.26	823.659	.000
Product category interest (PCI)	3.54	5.53	4.79	1.87	1621.643	.000
Confused by over-choice consumer (CBC)	4.15	5.13	3.19	2.67	1203.434	.000
Habitual, brand-loyal consumer (HBC)	4.20	5.36	3.19	2.66	1199.400	.000
Price conscious, 'value for money' consumer (PCC)	4.56	5.18	4.57	3.45	262.838	.000
Future purchase intention (FPI)	4.14	6.18	5.77	2.73	2152.535	.000

Table 3. *Segments of organic food CDMS*

The four clusters that were derived from the analysis, based on the percentage share of the total sample were:

Cluster No.1: The "Indifferent Consumers" (39.3% of the total sample). These consumers have $3.51 < FCC < 4.60$, and FCC of FPI=4.14, i.e., neither agree nor disagree on the 7-point Likert scale. Their most positive attitude is towards the dimension Price conscious, 'value for money' consumer (PCC) with FCC=4.56. Since this group is not negatively positioned, marketing communication and social marketing campaigns can be used to lead to future positive attitudes.

Cluster No.2: The "Organic Food Consumers" (29.9% of the total sample). These consumers have $4.38 < FCC < 6.18$, with the highest FCC of $FPI = 6.18$, i.e., agree on the 7-point Likert scale. Of the seven dimensions of CDMS, only one has $FCC < 5.00$. this group has the most positive attitudes compared to other groups as well as the most positive FPI.

Cluster No.3: The "Health and Ecological Conscious Consumers" (16.5% of the total sample). These consumers have $3.19 < FCC < 5.77$, with FPI being the highest of $FCC = 5.77$, i.e., tend to agree on the 7-point Likert scale. Of the seven dimensions of CDMS, only two have $FCC < 5.00$. This group seems to be motivated for a positive FPI by the fact that they are firstly ecological and health-conscious and secondly, perfectionists and high-quality consciousness consumers.

Cluster No.4: The "Conventional Food Consumers" (14.3% of the total sample). These consumers have $1.89 < FCC < 5.77$. Their FPI of organic food is the lowest being $FCC = 2.73$, i.e., tending to somewhat disagree on the 7-point Likert scale. This group seems to be reluctant of purchasing organic food, at least in the short run. Of the seven dimensions of CDMS, the dimension with the highest FCC is the dimension "Price conscious, 'value for money' consumer", ($FCC = 3.45$); which probably is the motivation wheel of behavior. In this aspect, this group is alike the first group (Indifferent Consumers), since they both are price consciousness consumers.

Overall, from the segments, it is obvious that less than half of the consumers (43.7%) seem to be short-term potential organic food consumers, while the rest either are reluctant or need effort for behavioral change.

DISCUSSION - CONCLUSION – LIMITATIONS

This paper had as its aim to explore the CDMS for organic food products and to segment consumers based on these DMS; for so, a quantitative research approach was realized during six months in 2021 recruiting 3296 consumers. It is pointed out that this research did not have as an aim to validate the CSI used in the Greek context.

Segmentation based on these dimensions provided four distinct groups of people, namely the "Indifferent Consumers"; the "Organic Food Consumers"; the "Health and Ecological Conscious Consumers"; and the "Conventional Food Consumers". The comparisons provided here are interpreted with caution since similar research was not found, and for so, findings can only be partially in line with the findings of previous authors. For example, the "Indifferent Consumers" care mostly about the price of the product and secondly about their health. They are the price-sensitive group that could buy organic food if its price is affordable. This group could be partially compared to the "economic consumers" of Anić et al. (2014) work (Anić et al., 2014, did not proceed to segmentation analysis, nor did he study organic food). Also, our segment "Health and Ecological Conscious

Consumers” could be compared to the “Highly conscious consumers” of the work of Thomas et al. (2013) since both segments focus on health and the environment. Though, the work of Thomas et al. (2013) did not focus on organic food.

The main limitation of the study refers it is an ongoing study and these results are preliminary. Additionally, limitations exist regarding the dimensions and items incorporated as well as validation of the scale in the Greek context of organic food choice.

IMPLICATIONS

Sustainability has become a major issue worldwide and sustainable food consumption is a ‘central axon’ of it. One of the dimensions of sustainable food consumption is organic food since it does not cause the problems that conventional food production does to the environment. with similar behavior that could serve as a basis for social marketing and company communication strategies. Results revealed that only 30% of the sample is organic food consumers. Consequently, marketers and governmental officials that strive for a sustainable future need to take action in order to increase demand and consumption. These actions are mainly marketing-based, referring to the marketing communication by emerging specific benefits of organic foods based on the CDMS of each segment. For example, for the groups which are not price-sensitive, other issues through communication channels should be the focus, such as health-related benefits or environmental related benefits. For the group that is price sensitive and low-income people, coupons may be distributed for a discount for specific-day purchases, in order to suppliers to sell all the produce.

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GOOD FOR MISSION AND GOOD FOR BUSINESS: PATTERNS OF VALUE CREATION IN THE CASE OF HYBRID STARTUPS

Kocollari, Ulpiana; Montanari, Stefano

Department of Economics "Marco Biagi", University of Modena and Reggio Emilia, Modena, Italy

ABSTRACT

The development of the field of hybrid organizations (HO) has drawn attention to the need for additional work on identifying and measuring the value created through the solution of social problems by means of businesses. There has been a proliferation of the measurement processes for satisfying the most widely varying demands for information about the performance of HO, although so far the results cannot be considered exhaustive. In this context, the present study attempts to contribute to the debate by individuate hybrid patterns of variables that can be used to analyse HO's performance and to assess their social and economic value creation. The research analyses combined variables used for the measurement of the hybrid performance generated by a specific type of HO which has distinctly social and innovative characteristics from its foundation – the Italian Innovative Startup with a Social Goal (ISSG).

The results show that the traditional measurement processes alone (economic or social) are not able to provide useful information for the assessment of the activities carried out by ISSGs and the extent to which they fulfil innovatively their social goals. Combining traditional economic variables with social and governance once can help startups individuate patterns of value creation for detecting appropriate paths for their enterprise development.

Keywords: Hybrid Organizations, Innovative startups, Performance measurement, Social impact, Patterns of Value Creation, Cluster analysis.

INTRODUCTION

Hybrid organizations (HO) combine economic and social mission in their efforts to generate innovative solutions to complex problems (Battilana et al., 2012, Mair et al., 2013, Battilana and Lee, 2014). They may take a variety of legal forms, some of them hybrids, generally depending on the legal framework in the different countries (Ebrahim et al, 2015). In the present study the focus is on a specific form of HO that is the innovative startup that pursue a social goal with the aim to identify hybrid measurement processes that consider both their social impact and economic value.

Innovative entrepreneurship prerogatives concern the obtaining of adequate market space and value creation in order to survive and grow at the same time. In the startup phase, they are small firm

that are not a scaled-down version of larger firms (Caseiro and Coelho, 2020). Their specificities such as their management practices, resources accessibility, industry response and the way they compete in the market, should be considered (Man, Lau, & Chan, 2002). Furthermore, in a strongly dynamic and instable environment, as the one experienced in the pandemic era, startups must combine different categories of context information and measures to improve their decisions. Thus, multidimensional constructs can assist managers to effectively adapt with startup's context and increase their firms' performance (Zahra and Garvis, 2000, Zahra et al., 2002).

Considering the lack of detailed studies regarding HO's investigated in their startup phase, we try to advance knowledge by exploring some aspects of value creation measurements in this type of organizations. We are aware that value creation represents a complex concept to measure, especially for what concerns HO. While traditional for-profit organizations measure it in terms of economic outputs that account their effectiveness, efficiency, and productiveness, for HO it is harder to quantify their "economic" value and considering simultaneously their social goals, which makes the identification of their overall value even more difficult (Kearney, 2018). In order to investigate these distinct outcomes jointly, we adopt a multidimensional approach that analyses patterns of economic, social and governance measures in a managerial perspective rather than considering traditional economic or social impact measurements separately.

The aim of this paper is to detect the interaction among hybrid organizations' economic, social and governance measures and identify patterns of value creation in innovative startups with a social goal. A cluster analysis is performed to define the groups of value creation patterns that emerge by the different combinations of multidimensional variables.

To achieve our objectives, the article is structured as follows. Section "Theoretical background" reviews prior research on HO performance measurement for proposing our research question. In the second section we analyze the case of innovative startups. Section "Method and data analysis" presents the data and method used to analyze empirically the research question developed in a sample of Italian innovative hybrid startups. Section "Results and patterns detection" presents the results obtained. Finally, Section "Conclusion and implication" discusses the results, presents some implication of this study and points some future research directions.

THEORETICAL BACKGROUND

The expression "hybrid organization" is used to define organizations that combine elements from both for-profit and non-profit sectors, that address economic, social, and environmental issues (Battilana et al., 2017). Their activities are mission oriented and answer to a mixture of demands. In the management literature, the term is used to describe organizations that extent institutional boundaries (Brandsen and

Karré 2011; Jay 2013; Pache and Santos 2012; Smith 2010) and operate for multiple causes (Ruef 2000). Hybridizations process encloses the optimization of several heterogeneous variables that represent specific issues combined in an entrepreneurial project. The different forms of HO can range from innovative startups that try to deal with challenges of the society while offer their products and services, to larger firms that offer better performance to their stakeholders, engage in their communities, or reduce their environmental impacts (Doherty, Haugh & Lyon, 2014). HO often face many conflicting interests arising from their organizational form (Davies and Doherty, 2018; Doherty et al., 2014; Ebrahim et al., 2014; Haigh, Walker, Bacq, & Kickul, 2015; McMullen & Warnick, 2016). Considering their hybrid nature, some paradoxical outcomes that are “good for mission but bad for business” (Jay, 2013). Some authors point out the need to identify not only the “responses” for competing logics but investigate the conditions and processes through which they become competing (Greenwood et al., 2011). Focusing on the competing conditions that can bring to competing outcomes, we try to detect the interaction and dynamics among hybrid organizations’ economic, social and governance measures and identify patterns of value creation in hybrid startups.

The Italian innovative startups with a social goal

Over the last decades, Italy has witnessed firstly the introduction and then the expansion of innovative business models for new ventures, in a variety of forms, as an integral part of its economic context. One recent category of HO examined in this study is that of innovative startups. The Italian Decree Law 179/2012 introduced a new body of legislation governing the foundation and growth of innovative startups. In particular, article 25, subsection 2 defines an innovative startup as a capital enterprise, which may also be a cooperative, incorporated under Italian law, shares or stakes in which are not listed on a regulated market or on a multilateral trading system, which meets specific requirements. Within this broader definition of an innovative startup, the law identifies two additional types of enterprise which are awarded greater fiscal benefits for their potential investors: startups with social goals and high-tech startups in the energy industry.

From an operational point of view, an innovative startup must meet all the criteria for a startup and also fulfil an additional condition related to its innovation in its area of business, in order to be qualified as such. In particular, for innovative startups it is mandatory to comply with the “cumulative” prerequisites (meaning that they must all be fulfilled) listed in the aforesaid article 25, subsection 2, and the “alternative” prerequisites at the same point. In order to define their “innovative” features, the law requires the company to fulfil at least one of the following conditions (which are alternatives):

- it must spend at least 15% of the cost or total value of its production (whichever is greater) on research and development;

- at least one third of the total workforce must consist of highly qualified people, who may be formal employees or freelance associates of any kind;
- it must be the owner, registered holder or licensee of at least one patent.

These characteristics imply specific expedients for analyzing and evaluating the activities of these firms. In particular, a set of qualitative context variables are added to the traditional economic and financial criteria in order to identify their innovative activities.

One very interesting category of social enterprise examined in this study is that of innovative startups with a social goal (ISSG). Italian Decree Law 179/2012 introduced a new body of legislation governing the foundation and growth of innovative startups. Specifically, article 25, subsection 2 defines an innovative startup as a capital enterprise, which may also be a cooperative, incorporated under Italian law, shares or stakes in which are not listed on a regulated market or on a multilateral trading system, which meets specific requirements. Within this broader definition of an innovative startup, the Law identifies two additional types of enterprise which are awarded greater fiscal benefits for their potential investors: startups with social goals and high-tech startups in the energy industry.

We are therefore analyzing a type of enterprise which has distinctly social characteristics from its foundation, and is therefore in need of a measurement process capable of identifying and communicating the social impact it generates. This measurement process becomes an integral part of the company's creation, without which it would lose its social vocation and thus its legal status and the tax concessions granted by the law. From the operational point of view, a social startup must meet all the criteria for innovative startups and also fulfil an additional condition related to its area of business, in order to qualify as such.

In order to verify the status of innovative startups with social goals, the Law has established a specific classification and monitoring procedure. Startups with social goals must issue annual reports describing the social impact of their operations, in accordance with Economic Development Ministry Circular no. 3677/C of 20 January 2015. The legal representative of the ISSGs must issue a signed declaration confirming:

- that the company operates exclusively in one of the legally permitted sectors;
- that the company's operations in this sector/these sectors is in the interest of the public good;
- that he undertakes to provide proof of the social impact generated.

All ISSGs must therefore issue the legally required document to guide the process by which they identify, calculate and monitor their social impact.

In order to encourage the creation and development of startups with social goals and high-tech energy industry startups, Italian legislation grants potential investors a higher rate of tax concessions. For both types of startups, the law grants:

- tax deduction of 25% for investors who are natural persons up to a maximum investment of Euro 500,000 on an annual basis;
- tax deduction of up to 27% for investors who are legal persons up to a maximum annual investment of Euro 1,800,000.

In last years in the high amount of innovative startups, the presence of those that pursue a social goal has increased.

METHOD AND DATA ANALYSIS

As a first step, we analyzed the economic, social and governance variables of all the innovative startups with a social goal active in Italy at the date of the investigation. We consider the extensive population of 163 registered in the specific section of ISSG in 2021, using firm-level data obtained from Aida Bureau van Dijk database. The set of variables are adapted from other studies (Cavicchioli and Kocollari, 2021) used are reported in table 1.

Variable	Description
N_BAL	Number of balance sheets
VIAS	Value Added/Shareholders
NIA	Net income to total assets
EBITA	Earnings before interest and taxes to total assets
DA	Total debt to total assets ratio
SA	Turnover/total assets
CACL%	Current assets/current liabilities $\times 100$
NWCA%	(Current assets-current liabilities)/total assets $\times 100$
EBITI	Earnings before interest and taxes/financial expenses
Nr. SRH	Total number of Shareholders
INDUSTRY	1-Manufacturing; 2-Services; 3-ICT; 4-Commerce; 5-Agriculture
AREA	Geographical area in which the startup operates

Table 1. *Variables description*

For the empirical detection of the startups' value creation patterns, clustering methods are applied on the variable used to bridge economic and social performance (value added/ shareholder) over the last two years (2020, 2019). After a first clusterization of the entire sample, we performed a further cluster analysis on the cluster that gathered the higher number of firms in order to further classify the patterns of variables. The clustering methods include two popular classical methods, namely k-means (KMN) and k-medians (KMD). The KMN and KMD clusterings are performed using SPSS software. A limitation of the selected model is that as there are thousands of different clustering algorithms available (Jain, 2010), the results of this study might not be the same if all the different options are employed.

The analysis of the patterns of startups value creation is carried out as follows. After the detection of the cluster solution, the behavior of three financial ratios, three profitability ratios, 2 identity variables, 1 growth variable and 1 governance measure in each cluster will be analyzed in order to find out,

which of the variables contributes the most to the startup value creation. For outlining the contribution, for each firm in the sample, the value of each of the variables has been compared to the median and average values of the once that have been calculated for each cluster. Then, the values of these medians are compared, and the largest value is considered to be the most important contributor in determining the startup value creation. Finally, the prevalence of different patterns of variables that determine the value creation of startups, will be constructed in each cluster.

RESULTS AND PATTERNS DETECTION

The analysis of the variables is carried out through a preliminary grouping into six dimensions capable of capturing complex aspects of HOs' management.

The first analysis revealed 5 clusters made up of a plurality of cases, where CLS_2, CLS_4 and CLS_5 are analyzed. We did not consider clusters CLS_1 and CLS_3 as they are composed by a single startup.

CLUSTER	1	2	3	4	5
VAIS VAR.% 20-19	-2287.03%	-36.34%	16376.47%	1048.05%	-606.69%
Number of cases	1	117	1	8	11

Table 2. *Results of first cluster analysis*

In order to visualize the distribution of HOs among clusters, a scatterplot of startups' distribution based on the industry and growth variable is represented in figure 1.

Figure 1. *Clusters composition considering startups' industry and growth*

The cluster n. 5 gathers the start-ups in which register a strongly negative variation of VAIS. The identity variables shows that these HO are younger than the sample average, belonging mainly to the service sector and have a higher number of shareholders. The growth of these companies is relevant (SA 2020 almost double compared to SA 2019) but the economic performance is not yet sufficient. In fact, the economic variables show an improvement compared to the year 2019 but remain negative, both in terms of net profit and operating profit. The asset structure shows a strong increase in receivables and debt, that may detect HO difficulty in obtaining rapid payment of their incremental sales.

The pattern that can be detected in this cluster highlights young firms that have potential in growth that is not yet realized in income.

DIMENSIONS	VARIABLE	YEAR	VALUE	TOT	CLS_5
	NR_CASES			137	11
IDENTITY	N_BAL	2020	Mean	3,47	2,55
	INDUSTRY	2020	Mode	2,00	2,00
GOVERNANCE	Nr. SRH	2020	Median	3,00	6,00
GROWTH	SA	2020	Median	0,23	0,35
	SA	2019	Median	0,24	0,19
ECONOMICS	EBITA%	2020	Median	-0,62	-2,81
	EBITA%	2019	Median	-1,00	-20,07
	EBITI	2020	Median	2,18	-11,32
	EBITI	2019	Median	0,91	-31,12
	NIA%	2020	Median	-1,17	-4,50
	NIA%	2019	Median	-1,37	-20,00
FINANCIALS	CACL%	2020	Median	175,66	471,16
	CACL%	2019	Median	160,88	170,93
	DA	2020	Median	0,69	0,63
	DA	2019	Median	0,66	0,57
	NWCA	2020	Median	22,57	35,53
	NWCA	2019	Median	17,75	17,40
SOCIAL	VIAS 20/19	2020	Median	-0,38	-6,32

Table 3. *Values of cluster 5*

Cluster n. 4 includes the companies that in 2020 increased the most VAIS. The identity variables show that the startups are on average older than those belonging to cluster 5, even if slightly younger than those of the total sample. They also operate mainly in service sector and they have a lower number of shareholders than both those belonging to CLS_5 and the total sample. Similarly to cluster 5, they achieved significant growth in 2020, but they improved their economic performance from 2019 to 2020, considering both the level of net profit and the operating result. Also in this case, the growth in sales volumes led to an increase in current assets and this result allowed a reduction in financial debt. The pattern that can be designed from these HO explains how their growth, have overcome the initial diseconomies reaching an adequate size to produce profits.

DIMENSIONS	VARIABLE	YEAR	VALUE	TOT	CLS_4
	NR_CASES			137	8
IDENTITY	N_BAL	2020	Mean	3,47	3,13
	INDUSTRY	2020	Mode	2,00	2,00
	Nr. SRH	2020	Median	3,00	2,00
GROWTH	SA	2020	Median	0,23	0,44
	SA	2019	Median	0,24	0,32
ECONOMICS	EBITA%	2020	Median	-0,62	5,85
	EBITA%	2019	Median	-1,00	-3,84
	EBITI	2020	Median	2,18	5,04
	EBITI	2019	Median	0,91	-44,46
	NIA%	2020	Median	-1,17	3,25
	NIA%	2019	Median	-1,37	-3,74
FINANCIALS	CACL%	2020	Median	175,66	216,05
	CACL%	2019	Median	160,88	76,19
	DA	2020	Median	0,69	0,77
	DA	2019	Median	0,66	0,83
	NWCA	2020	Median	22,57	24,27
	NWCA	2019	Median	17,75	-3,20
	VIAS 20/19	2020	Median	-0,38	9,39

Table 4. *Values of cluster 4*

The cluster n. 2 includes most of the startups whose change in added value for shareholder is modest. The size of this cluster required an additional analysis in order to identify homogeneous behaviors of the HOs that compose it.

The further cluster analysis carried out revealed the presence of three further clusters within CLS_2.

Cluster	1	2	3
VAIS VAR.% 20-19	172.01%	-18.61%	-189.40%
number of cases	15	71	30

Table 5. *Results of second cluster analysis CLS_2*

The Cluster 2.1 collects the cases in which the added value produced per shareholder is higher. The identity variables show that these are younger than average companies, which operate mainly in the ICT field and with a higher number of shareholders. Also in this case, the HO register a growth in 2020, that does not improve the profitability ratios. While remaining positive, the median indicators of both operating income and net income worsened. Financially, there was an increase in debts, both commercial and financial. A further pattern can be defined: ICT young firms that offers services and products that produce growing revenues but not profit and this brings higher debts.

DIMENSIONS	VARIABLE	YEAR	VALUE	TOT	CLS_2.1
	NR_CASES			137	15
IDENTITY	N_BAL	2020	Mean	3,47	2,67
	INDUSTRY	2020	Mode	2,00	3,00
	Nr. SRH	2020	Median	3,00	4,00
GROWTH	SA	2020	Median	0,23	0,22
	SA	2019	Median	0,24	0,15
ECONOMICS	EBITA%	2020	Median	-0,62	0,33
	EBITA%	2019	Median	-1,00	1,70
	EBITI	2020	Median	2,18	75,51

	EBITI	2019	Median	0,91	31,21
	NIA%	2020	Median	-1,17	1,11
	NIA%	2019	Median	-1,37	1,27
FINANCIALS	CACL%	2020	Median	175,66	116,91
	CACL%	2019	Median	160,88	128,28
	DA	2020	Median	0,69	0,67
	DA	2019	Median	0,66	0,65
	NWCA	2020	Median	22,57	6,65
	NWCA	2019	Median	17,75	19,57
	VIAS 20/19	2020	Median	-0,38	1,66

Table 6. *Values of cluster 2.1*

Cluster 2.2 is the most numerous and approximates the mean and median values of the sample (71 cases). The identity variables gather HOs whose average age is just under 4 years old, operating in the service sector and with a number of shareholders equal to 3. The growth indicators show a significant reduction that has produced negative effects on the economic dimension whose values become negative, both at the level of operating income and net income. The financial dimension shows how the slowdown in sales has led to a reduction in current assets, but also an increase in financial debt. The pattern that can be detected is characterized by a negative trend in both growth and economic dimension performed in service more mature startups.

DIMENSIONS	VARIABLE	YEAR	VALUE	TOT	CLS_2.2
	NR_CASES			137	71
IDENTITY	N_BAL	2020	Mean	3,47	3,76
	INDUSTRY	2020	Mode	2,00	2,00
	Nr. SRH	2020	Median	3,00	3,00
GROWTH	SA	2020	Median	0,23	0,30
	SA	2019	Median	0,24	0,49
ECONOMICS	EBITA%	2020	Median	-0,62	-0,26
	EBITA%	2019	Median	-1,00	1,64
	EBITI	2020	Median	2,18	2,40
	EBITI	2019	Median	0,91	2,03
	NIA%	2020	Median	-1,17	-0,75
	NIA%	2019	Median	-1,37	0,62
FINANCIALS	CACL%	2020	Median	175,66	165,78
	CACL%	2019	Median	160,88	162,98
	DA	2020	Median	0,69	0,73
	DA	2019	Median	0,66	0,69
	NWCA	2020	Median	22,57	20,29
	NWCA	2019	Median	17,75	21,35
	VIAS 20/19	2020	Mediana	-0,38	-0,23

Table 7. *Values of cluster 2.2*

Finally, cluster 2.3 collects the cases of HOs that have had the worst performance. These are companies with above average seniority, operating mainly in the service sector and with a significant lower number of shareholders. The SA shows not only how these are cases in which sales have fallen slightly, but also how sales volumes are extremely low compared to total assets. The indications therefore

coming from the other variables must be read considering the low revenues. The economic dimension shows constantly negative values both in 2019 and 2020 even if improving both in terms of operating income and net income. The difficulties of these companies is also evident from the financial perspective where there is a significant increase in net working capital, probably deriving from the difficulty in collecting receivables and the growth of financial debts, resulting from the financing of the losses incurred. The pattern we are able to identify is a crises one as they have low economic results caused by their poor performance in the market.

DIEMSIONS	VARIABLE	YEAR	VALUE	TOT	CLS_2.3
	NR_CASES			137	30
IDENTITY	N_BAL	2020	Mean	3,47	3,60
	INDUSTRY	2020	Mode	2,00	2,00
	Nr. SRH	2020	Median	3,00	2,50
GROWTH	SA	2020	Median	0,23	0,07
	SA	2019	Median	0,24	0,08
ECONOMICS	EBITA%	2020	Median	-0,62	-1,84
	EBITA%	2019	Median	-1,00	-6,31
	EBITI	2020	Median	2,18	-5,98
	EBITI	2019	Median	0,91	-5,00
	NIA%	2020	Median	-1,17	-2,40
	NIA%	2019	Median	-1,37	-7,60
FINANCIALS	CACL%	2020	Median	175,66	218,74
	CACL%	2019	Median	160,88	129,28
	DA	2020	Median	0,69	0,68
	DA	2019	Median	0,66	0,58
	NWCA	2020	Median	22,57	29,50
	NWCA	2019	Median	17,75	12,65
	VIAS 20/19	2020	Mediana	-0,38	-1,79

Table 8. *Values of cluster 2.3*

CONCLUSIONS AND IMPLICATIONS

We find that the overwhelmingly largest contributor to startup value creation are the growth dimensions and economic efficiency mainly in service sector. In fact, the value creation is portrayed best with profitability. Due to the existence of different annual and accumulated profitability should both be accounted, and additionally, annual profitability also dynamically (i.e. the change in between two years). The six dimensions considered together can capture only the actual value creation but also potentially emergent future problems. In addition, in 3 clusters of the firms, the value creation patterns directly depend on the number of the reports available (the age of startups).

Another important take away for hybrid startups is that financial ratio drop to a non-sustainable level is less frequent in the identified patterns in comparison to profitability, thus despite the high usage of financial ratios in startups' evaluation studies, profitability should be preferred as an early indicator of potential future development or collapse specially for those that operate in social service realm.

The value created by ISSGs has a strong component of innovation that needs to be measured in a long-term perspective. This is possible if we consider the prevailing component in the ISSGs' multidimensionality, namely innovation, but in other cases it may be represented by evolutions in social need or by market orientation.

In assessing HO measurement processes, we have no common ground for measurement to rely on, since their performance is multidimensional and thus involves a variety of activities for which benchmarks or standards are still absent (Santos, 2012).

This can be a limitation for traditional measurement models, as they represent useful frameworks but have not yet developed application standards for the various configurations of the way value is created, and especially to define the operational specific aspects that facilitate the implementation of the model itself in the realm of HO's value generation. If we consider financial measures alone, for example, while legislation frames the goals and standards for drafting the document, accounting standards provide the "recipe" for their application. Similarly, the measures for HO need to include protocols that can help users to better understand and develop the information they offer for the detection and sizing of different social and innovation issues. By the same token, in order to better adapt to different HO which may generate different patterns of value, models need to be supported by greater understanding before their application, thus ensuring consistency with measurement and reporting requirements. This can also be useful for capturing the impact produced in mutual scenarios and for evolving needs.

Implication for research and practice

In this study, the adequacy of the HO's value creation measurement is analyzed in the case of ISSGs. Our work offers two main contributions to the current debate.

First our analysis shows that even consolidated measure and reporting such as the financial ones, may not fulfil their function in assessing HO's performance if the measurement process is not grounded in the hybrid value creation patterns and in HO's accountability needs. Recent literature has underlined that HOs vary across geography and communities (Seelos et al., 2011; Ebrahim et al., 2014). This study further highlights those various types of HO's value creation, with different prerogatives, resources and forms of organization, may have different information needs for their value creation processes. The efficiency of the measurement models that HOs adopt for assessing their performance measurement and reporting it to multiple stakeholders is affected by diverse accountability issues. At this stage, we are not able to pinpoint a one-size-fits-all model even for one specific form of HO, the ISSG analyzed here.

Second, the phase of firm's development is important also for detecting its value creation and the instruments needed for its assessment. For the evaluation of a startup in terms of hybrid results such as

competing outcomes and impacts for innovative solutions, we suggest a “participatory” measurement process that considers all stakeholders’ claims and is capable to provide a useful tool that identifies combined outcomes that become “good for mission and good for business”. Setting out not only the measurement objectives but also the plan for the sequence of activities associated to each evolving aspect of HO value creation may enact meaningful forms of outcomes setting to all stakeholders and gradually increase their common understanding on HO’s value creation.

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EXPLORING THE EFFECTS OF COVID-19 PANDEMIC ON SHOPPING CENTRES

Kouroupi, Athanasia¹; Karagouni, Glykeria²

¹Department of Economics, University of Thessaly, Volos, Greece

²Department of Forestry, Wood Science and Design, University of Thessaly, Karditsa, Greece

ABSTRACT

The pandemic of COVID-19, besides the severe health impacts on a global level, affected significantly almost every economic and social aspect of societies. Consumers' behaviour and shopping habits were among them. Consumers are changing their shopping behaviour, adapting to the new normal influenced, among others, by the changes noted in the operation of physical stores (brick and mortar), due to pandemic measures and restrictions. As a result, the pandemic also affected the shopping centres. Despite significant research conducted on how pandemics affected consumer behaviour in general, there seems to be a lack of research on the shopping habits' changes, specifically for the shopping centres' visitors. This research used data from the markets of Spain, Romania, and Portugal, from two different periods: in 2019 before the onset of the COVID-19 pandemic, and in 2021 that was during the pandemic.

Outcomes suggest that the COVID-19 pandemic resulted in significant changes in shopping centres' consumers shopping behaviour and habits. However, shopping centres although unquestionably affected by the pandemic, maintained their leading position as the most popular consumer choice. Consumers appeared not to reduce the frequency of their shopping centre visits, when those were properly operating, but seem to have changed the type and density of their shopping habits. Moreover, restrictions on physical stores' operation led consumers to alternative distribution channels and, inevitably, to e-commerce.

Findings can assist researchers and practitioners of the retail industry, in formulating plans to successfully deploy preventative measures against future crises in physical stores' (brick-and-mortar) operations and the retail sector in general.

Keywords: Consumer Behavior, Shopping Habits, Shopping Centres, COVID-19, Retail Trade, E-commerce

INTRODUCTION

This study aims to explore how the COVID pandemic affected the operation of shopping centres by studying the behaviour of consumers who visit shopping centres, mainly in terms of frequency of

visits and shopping habits. It is trying to answer the question: How did the COVID-19 pandemic affect the operation of shopping centres? How and to what extent have the shopping habits of shopping centres' consumers changed?

The on-going COVID-19 pandemic, besides health issues, has a significant economic and social impact with significant consequences and changes in people's way of life throughout the world. Among the parameters that has been significantly affected is consumer behaviour and shopping habits. Influenced, among others, by social distancing and protection measures, such as the use of masks and keeping distance, but also by restrictions on the operation of commercial stores and changes in the way products are purchased (with increasing e-commerce), consumers are gradually changing their buying behaviour, adapting to new conditions (Yule, 2020; Bourlier, 2020; Emmanuelli et al., 2020).

The retail sector operating with physical stores was heavily affected by the pandemic in terms of the number of consumers who visit stores and their sales/turnover (Eurostat, 2020; Eurostat, 2022). As a result, retail has been challenged in its logistics, operational, and business viability (World Trade Organization, 2021). On the other hand, the e-commerce retail sector, which was already on the rise, experienced a growth acceleration during the pandemic period (Bourlier, 2020; Eurostat, 2022). According to researchers (Yule, 2020; Bourlier, 2020; Shetty et al., 2020), the pandemic and the lockdowns may have changed the market structure and consumer behaviour forever; many consumers were forced to make online purchases for the first time because of the pandemic. This change led to a rapid consumer familiarity with e-commerce and has resulted in an overall increase of the e-commerce users.

Despite the vast literature available, the international literature lack of studies and research on the changes taken place due to Covid-19 in the shopping habits of shopping centres' visitors. With the COVID pandemic in its fourth wave -February 2022- in most countries of the world (World Health Organization, 2022), and with the global economic activity showing significant dysfunctions due to the pandemic (World Trade Organization, 2021), the investigation of this issue is highly topical. Understanding how the pandemic has affected consumers' shopping habits, especially those who visit shopping centres, can contribute practically with a broad scope to retail trade in general and particularly on shopping centres. In addition, it can contribute at a theoretical level to the further interpretation of consumer trends today, considering the social change in times of crisis and the shift of societies to the digital transformation.

LITERATURE REVIEW

The literature review indicated that while a broad literature refers to the effects of internal and external factors on consumer behaviour, no studies address consumers' shopping habits specifically.

Research has focused on how internal factors (culture, personality, and loyalty) can influence consumer behaviour (Vebrova, 2016) and a stream of literature explores the external influences, factors, and aspects that customers cannot control (for instance, a global pandemic or a world economic crisis) and how these directly affect consumers' behaviour and decision making (Ling & Yazdanifard, 2015). In addition, a considerable number of studies examine consumer behaviour during the current COVID-19 pandemic (Yule, 2020; Bourlier, 2020; Shetty et al., 2020; Cerezo et al., 2021; Hesham et al., 2021; Lopes & Reis, 2021; Savvida et al., 2021).

Shopping centres and consumer behaviour

Shopping centres are an essential part of retail in many countries worldwide, being integrated into consumers' lives for decades (Bawa, Sinha & Kant, 2019) and with a significant financial stake in the retail sector. According to Eurostat (2021), shopping centres are one of the seven critical areas of analysis and study in the retail sector.

A stream of the relevant literature focuses on the shopping habits as part of consumer behaviour. Byun, Duhan, and Dass (2020, p. 165) define shopping habits as a "consistent behaviour about the time and place chosen to purchase certain products". According to Liu-Thompkins and Tam (2013), the magnitude of a firm's regular customers' habits depends on the following three parameters: i. the stability of buying time; ii. the stability of the location of the purchase; and iii. the average weekly frequency of purchases. Also, according to Blankertz (1950), seems to be a significant link between consumers' shopping habits and family characteristics, such as income, number of family members, and age. Buying habits seem to change in times of crisis and recession, when incomes decrease, adapting to more economical options and disposable income (Govender, 2013). Nevertheless, seems to be a clear distinction between consumers' general shopping habits (for example, when and where they shop) and their loyalty to specific products and brands (Byun, Duhan, and Dass, 2020). For the purposes of this study, an important separation in the buying process, resulting from consumer behaviour, seems to be the rational buy/buying versus the hedonistic buy/shopping (Tauber, 1972; McGuire, 1974; Andani, & Wahyono, 2018; Maqhfiroh & Prihandono, 2019). Their main difference lies in the criterion by which each one is made. In general, the rational buy is based on meeting a need and takes place when a consumer has already looked for a product and has chosen it afterthought and careful evaluation (Tauber, 1972; Dennis, 2018; Blachman, 2018). On the other hand, the hedonistic buy refers to the pleasure and satisfaction of searching for and buying a product that the buyer does not necessarily need, but acquiring it makes him/her happy (Arnold & Reynolds, 2003; Andani & Wahyono, 2018; Maqhfiroh & Prihandono, 2019). This separation seems to have had a significant effect on the evolution factors of the retail trade during the pandemic.

The COVID-19 pandemic's impact on habits in shopping centres

As early as 2020, researchers began to study the effects of the pandemic and the changes in business operations and consumer behaviour due to Covid-19. Towards this direction, some research trends also concern the Covid-19 effects on retail trade as a crucial part of global economic activity (Sarma et al., 2021; Quayson, Bai & Osei, 2020). In fact, according to Cerezo et al. (2021), the effects of the pandemic may have been more severe for the wider retail sector than for other sectors of the economy. For example, McKinsey's (2020) annual report on the fashion industry (which is a vital part of retail) predicted that 56% of global fashion companies would go bankrupt by the end of 2022; drawing attention to the challenging transition that the retail fashion industry will have to face soon. In addition, the various restrictive measures taken by countries to curb the spread of COVID-19 have disrupted the production, supply, and distribution chains and increased the prices of raw materials and finished products, creating strong inflationary waves in the world economy. (Hesham et al., 2021). Consequently, the COVID-19 caused drastic changes of consumer attitudes and behaviours as well as of the overall retail landscape of the 21st century (Hesham et al., 2021; World Economic Forum, 2021). According to the most relevant studies, the COVID-19 pandemic has changed consumers' shopping habits and perceptions of what is truly necessary and what is not by prioritizing and hierarchizing their needs (Baig et al., 2020, World Economic Forum, 2021; Sayyida et al., 2021). Thus, research by Accenture in August 2020 shows that in many cases, consumers used the "cessation of life" of the first quarantine of 2020 to reflect, among other things, on the way they consume. Therefore, change their buying habits trying to shop locally, reduce food waste, shop more sustainably and consider the overall cost of what they buy. Machová et al. (2021) focused on inventory storage's buying habits and behaviour due to the unpredictable effects and duration of COVID-19, which seems to have spread among people worldwide. Due to sanitary measures taken and the stores operating restrictions imposed, many stores were open for only a few hours per day, significantly increasing the demand for alternative distribution channels (Eger et al., 2021). In the same direction, Hesham et al. (2021) argue that consumers reduced their visits to shops, restaurants, and street markets after the outbreak of the pandemic, while their intention to buy was influenced by the climate of fear and insecurity resulting with a significant reduce of their purchases. Predicting the future, Sarma et al. (2021) estimates that during the pandemic -but also after it- there will be low demand from consumers, especially in retail products related to fashion (such as clothes, shoes, and accessories), due to the reduction of activities outside home, the rise of teleworking, and the various events' cancellation (Sarma et al., 2021). However, a survey by the International Council of Shopping Centres (ICSC, 2021) conducted in the United States in December 2021 shows that consumers are increasingly optimistic about the future and willing to visit a shopping centre and a physical store in a percentage of more than 50%.

The shift to online shopping during the COVID-19 pandemic

Even before the pandemic, traditional retail (physical stores) seemed to be gradually losing its role as the "market leader, due to the significant rise of e-commerce, affecting in turn the behaviour of consumers" (Juaneda-Ayensa et al., 2016). Consumers are gradually moving away from traditional promotional tools -popular until few years ago- such as physical stores, newspapers, magazines, and television commercials (Juaneda-Ayensa et al., 2016). They are now increasingly influenced and motivated by the internet (digital), discovering a new world of possibilities, with online stores, digital advertisements, and promotions, which reach them quickly and effortlessly, using their mobile phones (Reinartz, Wiegand, Imschloss, 2019). Multichannel communication allows consumers to be informed about products and make their purchases, providing them with a complete and seamless shopping experience, which breaks down barriers between physical and digital channels/stores (Juaneda-Ayensa et al., 2016). However, the COVID-19 pandemic has accelerated this new way of buying, bringing consumers either faster in touch with the digital world, or even closer to it (Sayyida et al., 2021; Baig et al., 2020). As identified by Accenture (2020) in its August 2020 research conducted after the so-called first wave of the pandemic, there is an increasing trend by 169% towards e-commerce and multichannel services (omnichannel). Even after the lockdown, consumers stated that they learned to enjoy the security and convenience of these services and seemed willing to continue using many of them. A more recent Accenture study (2021) found that the COVID-19 pandemic has permanently changed consumer behaviour and shopping habits and estimates that 63% of world consumers will shop online in 2025 (from 47%, which was this percentage in 2020). Against the above findings, Sayyida et al. (2021) noted that consumer buying behaviours, actions, and habits still tend more towards physical stores, even during the pandemic. This aspect shows that the COVID-19 pandemic did not significantly impact consumer behaviour during the purchasing stage but had a more significant impact on consumer behaviour during the information retrieval stage of the buyer journey, regarding the products they wish to buy (Sayyida et al., 2021; Molenaar, 2016).

RESEARCH METHODOLOGY

The research approach of this study is the descriptive quantitative research, utilizing secondary data for a significant quantitative research sample. The use of secondary data often has many advantages (Ellram & Tate, 2016; Sørensen, Sabroe, Olsen, 1996), such as: a) saving resources (time, money, staff required for data collection, and other aspects), which is the most critical advantage of secondary data use and b) the facilitation of longitudinal studies. In the case of longitudinal studies, the time constraints that apply to many studies would not make them possible without the use of secondary data (Sørensen, Sabroe, Olsen, 1996). Furthermore, the use of secondary data secures the reduction of prejudice and interference. As Rabinovich and Cheon (2011; as cited in Ellram & Tate, 2016, p.250)

point out, "the use of secondary data reduces the bias sometimes occur in case studies, as well as the interference of data collection that is present in more experiential methods, such as action research, experiments, and interviews".

The secondary data used in this research come from primary market research of a large multinational company which is specialized in shopping centres' management and consulting. It was conducted in the markets of Spain, Romania, and Portugal, in two different time periods: in 2019, before the start of the COVID-19 pandemic and in 2021, during the pandemic. Both phases of the research were carried out with phone interviews using structured questionnaires, lasting 15 minutes. In both periods, the same questionnaire was used, homogenizing the research results, and making the comparison between the different time periods more reliable.

An additional factor ensuring the homogeneity and comparability of the results is that the research sample (both in 2019 and 2021 survey) came from the same geographical areas of each country.

The sample consisted of 14,304 questionnaires of people between 16 and 74 of all economic levels and all types of households; 51.89% (n = 7,424) are women and the rest are men 48.1% (n = 6,880).

It should be noted that 2021 survey questions addressed all the periods of the year, i.e. the periods with stores' operation restrictions (such as part-time operation) and the period when the shopping centres were fully operating without restrictions.

Variables

The research focused on the following variables to study the changes that the pandemic brought about in the shopping habits of the shopping centres' visitors:

- Frequency of visits to shopping centres before (2019) and during the pandemic (2021) in number of visits for any purpose.
- Products' Shopping Categories: taxonomy adopted by Pitt & Musa (2009): i) Fashion, ii) Food, and iii) Entertainment.
- Shopping Density of the shopping centres: variable averaged over the total purchases per buying/market channel the survey's participants use for their purchases. It shows the dynamics of shopping centres compared to other buying/market channels. The buying/market channels examined are: Shopping Centres, Internet, Street Market / City Stores, Supermarkets, None (the customer answered that does not buy at all).
- Online shopping frequency: number of online shopping

The following variables were used as control variables:

- Family Type: The life cycle segmentation method was used, where the household/family is analyzed (Bauer & Auer - Srnka, 2012). Every family is classified by the children's' number and age, the age of the respondent, and his/her marital status.

• Economic / Social Class: based on the results obtained by the variables "occupation" and "educational level/education" of the person who contributes the most financially to the household. The types of economic/social class defined are as follows: High; Medium-High; Middle level; Medium-Low level; Low level

• Visiting Frequency: based on the stated number of visits per week/month/year, the following categories of consumer visits frequency to a shopping centre were defined:

- Heavy-Users: visit a shopping centre at least once a week
- Regular Users: visit a shopping centre at least once a month
- Users: They visit a shopping centre less than once a month

Visiting frequency regards both the periods of full operation of the shopping centres and the periods of operation restrictions (such as part-time store hours).

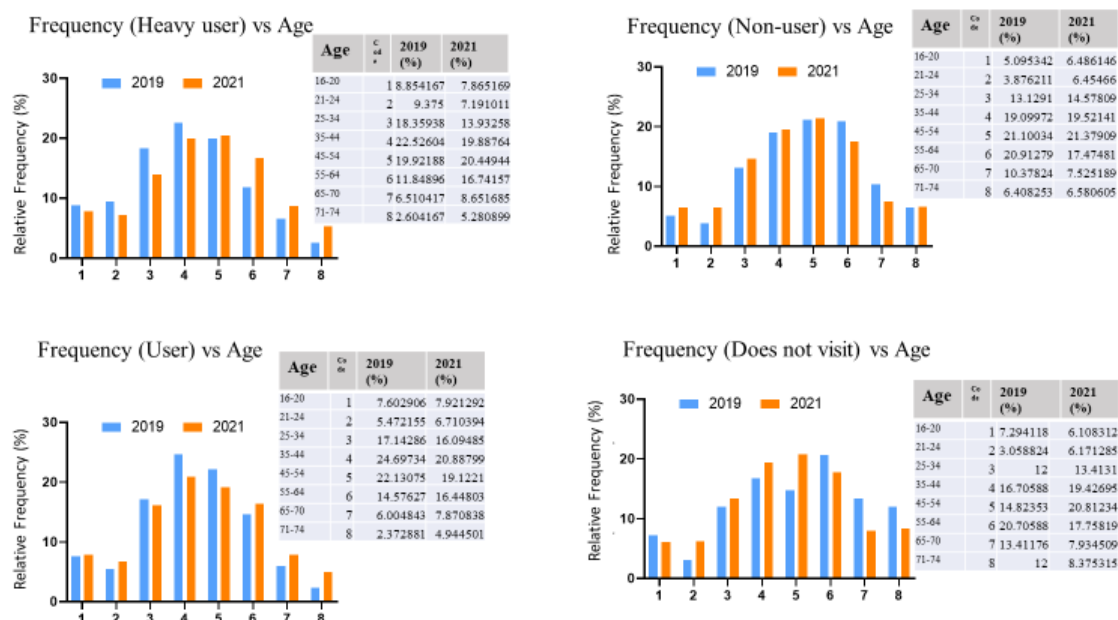


Figure 1 – Visit Frequency by Visitor's Frequency Group and Age of participants in the research

RESULTS

The research's overall results indicate that in the "era of the pandemic" the way, the reasons and the shopping motivation of consumers have changed. The choice between shopping centres and other options of shopping (physical and digital) have become more complicated, as the shopping decision is now made with different criteria. However, this study's findings suggest that consumers, even within the pandemic, have still strong links to the shopping centres and, consequently, the physical stores, regardless their age, income, or family type, as shown below.

Shopping centres and consumer behaviour

Consumers seem to maintain a constant frequency of visits to shopping centres and consequently maintain their trust in them. These results do not contradict to the study by Hesham et al. (2021), where researchers claim that consumers reduced their visits to shops, restaurants, and flea markets after the onset of the pandemic, since shopping centres belong on a different retail stores category of the ones studied by Hesham et al. (2021). This research shows that people over 45 who used to visit shopping centres often, appear to prefer them even during the pandemic. The same goes for young families and younger consumers (whether they are married or have/do not have children): they did not reduce their usual visits to shopping centres during the pandemic. As other studies (Untaru & Han, 2021; Loo et al., 2021) suggest, this could be due to protection measures taken on shopping centres, such as people counters, distance keeping, one way direction routes and temperature measure, made consumers feel safer to visit comparing to other alternatives. It seems that the older age groups (55-74) and especially those who visit shopping centres regularly (heavy users) or less regularly (users) were visit more shopping centres during the pandemic. This increase may be also attributed to the fact that in shopping centres one can find all categories of shops and products easily and quickly with just a single stop, avoiding the various commutes, which may be a disincentive during the pandemic (Untaru & Han, 2021; Loo et al., 2021).

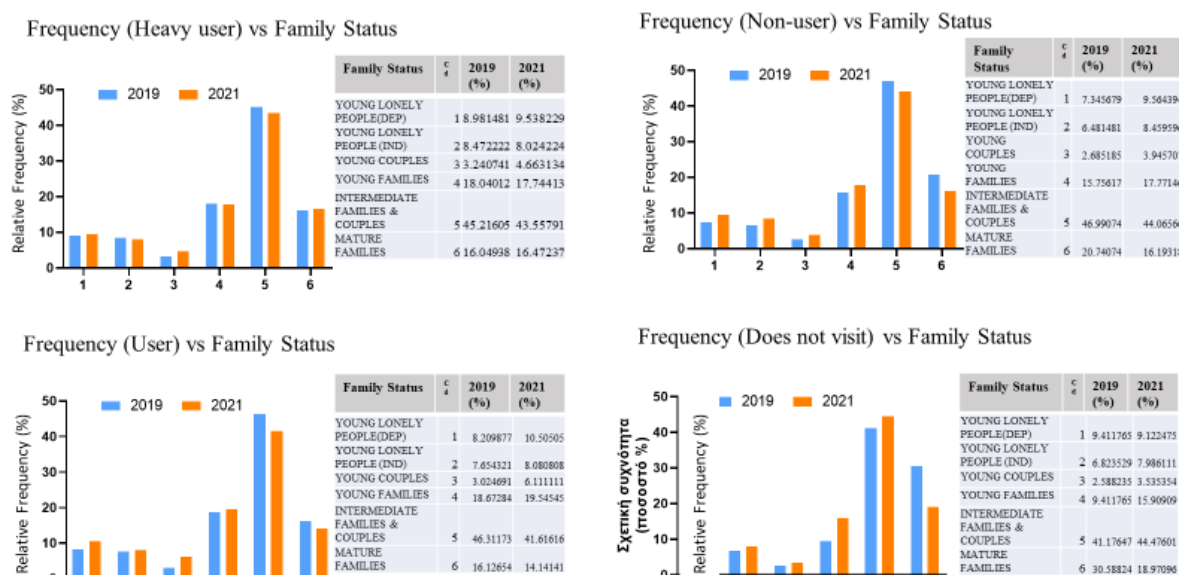


Figure 2 – Visit Frequency by Visitor's Frequency Group and Income / Economic Class of participants in the research

Furthermore, it is interesting to discuss the change in the mix of consumers who visit shopping centres during the pandemic. This research correlates with the study conducted by Govender (2013), where the researcher observed that consumers' shopping habits seem to change in times of crisis where incomes decline, and their shopping choices are adjusted to their disposable income each time.

This research findings show an increase in high and medium-high economic levels of consumers visiting shopping centres during the pandemic, and a decrease in moderate-low and low economic level consumers.

These findings are affirmed also from the study of Quian and Fan (2020) where the researchers suggested that there was a pressure exerted during the pandemic on low incomes by the contraction of economic activity and consequently the high unemployment that occurred due to the temporary closure of many companies. However, according to this research but also to other studies' findings (Sayyida et al., 2021), even though retail and the operation of shopping centres have been unquestionably affected by the COVID-19 pandemic, they continue to maintain their leading position, and are among the most popular consumer choices for their purchases.

The COVID-19 pandemic's impact on habits in shopping centres

In regards of purchasing behaviour and consumer habits, consumers seem to move away from the hedonistic buy/shopping that dominated their choices before the COVID-19 pandemic, changing their habits to rational buy/buying, trying to shop more sustainably more economically, and reducing waste by choosing local businesses. It appears that the COVID-19 pandemic affected the shopping habits of shopping centres' visitors both in terms of their intensity/frequency and the type of their purchases, even though they did not reduce the frequency of their visits to shopping centres. Results correlate with the results of several similar studies (Baig et al., 2020, World Economic Forum, 2021; Sayyida et al., 2021). According to most of them, the covid-19 pandemic has changed the buying habits and views of consumers towards what is truly necessary and what is not, by prioritizing and hierarchizing their needs. As a result of this change in consumer shopping habits, shopping centres appear to be the most negatively affected shopping channel in terms of food and fashion buying intensity during the COVID-19 pandemic.

While the relative shopping percentages of the other shopping channels (supermarkets, city stores/street market, online) show even an increase compared to 2019, the corresponding data of shopping centres seem significant decreases. Despite the changes in their shopping habits, consumers continue to choose the shopping centres first for their fashion items purchases compared to the other channels. This is in line with research of McKinsey (in Baig et al., 2020). However, it should be noted that their figures are reduced by -16% compared to the pre-pandemic survey of 2019, with a parallel increase in online shopping by + 9% compared to the same period.

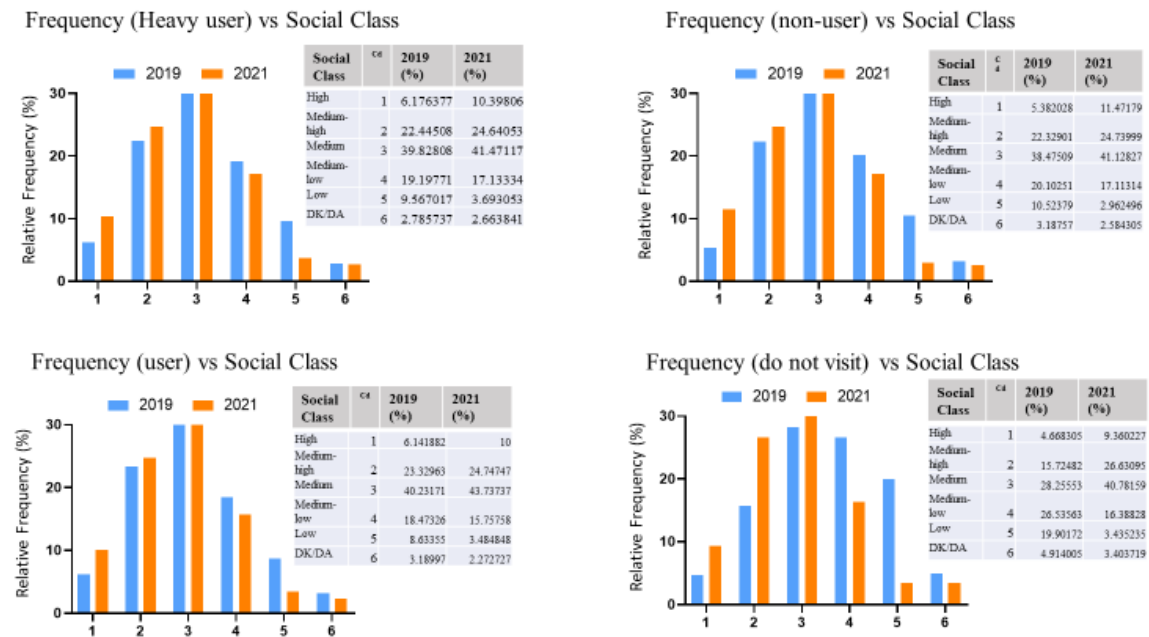


Figure 3 – Visit Frequency by Visitor's Frequency Group and Family Type of participants in the research

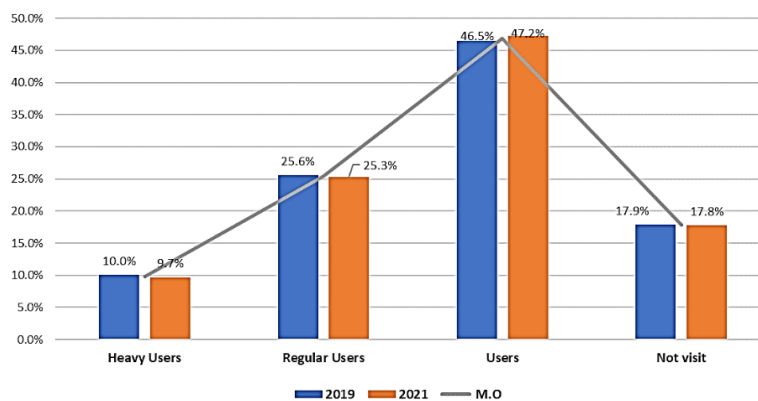


Figure 4 - Aggregate Visit Frequency by Frequency Group

The shift to online shopping during the COVID-19 pandemic

This research identifies a shift in consumer behaviour and a high rising trend towards e-services and digital markets. These trends are confirmed by McKinsey's research (in Baig et al., 2020) which proposes that COVID-19 will give retail businesses the momentum to accelerate their digital transformation. Acknowledging the changes in consumer behaviour as gradually move into a digital world is essential for the retail industry. This research correlates with relevant studies (Juaneda-Ayensa et al., 2016, Accenture, 2020) suggesting that retailers should differentiate their customer approach strategy and adopt an omnichannel communication strategy that helps consumers to get informed on companies' products/services and at the same time make their purchases fast and with no effort. In addition to the consumer tendency to interact with the digital world, the COVID-19 pandemic and the long-term restrictions that followed seem to have pushed many consumers to shop online for the first

time and gradually get acquainted with this way of shopping, incorporating it into their buying habits. This change resulted in a rapid increase in e-commerce users during the pandemic. At the same time, the online catering industry is also experiencing a significant increase, with the percentage of online food orders having doubled reaching 8% in 2021, from 4% in 2019; this is indicative of the trend prevailing in consumer habits with online orders to have come to stay and the pandemic giving an extra boost to this way of shopping. The above results are confirmed by the research of Accenture (2021), where it was found that the Covid-19 pandemic has permanently changed consumers' behaviour and shopping habits. It is estimated that consumers will make online purchases at 63% of the world population by 2025 (from 47% in 2020).

According to research findings, online shopping seems to have gained significant ground and market share over shopping centres and other physical channels during the COVID-19 pandemic. The various restrictions on physical store operation have resulted in consumers looking for alternative distribution channels, inevitably turning to e-commerce. However, according to the same research, consumers seem to continue to prefer the choice of physical stores when they operate without restrictions. Here, the research correlates with the study conducted by Sayyida et al. (2021), where researchers observed that consumers' shopping behaviours, actions, and habits, even during the pandemic, still tend more towards physical stores. The various restrictions on the operation of physical stores have resulted in consumers looking for alternative distribution channels, inevitably turning to e-commerce. In fact, in relevant research by Accenture (2020 and 2021), consumers replied that they have learned to enjoy the security and convenience of electronic services and purchases and want to continue using them. It is estimated that by 2025 consumers will make various purchases via internet to 63% of the world's population, from 47% in 2020 (Accenture, 2020; Accenture, 2021).

CONTRIBUTIONS TO THEORY AND PRACTICE

Research findings can assist researchers and practitioners in the retail industry in formulating plans to successfully deploy preventative measures against future crises in the physical stores' (brick and mortar) retail sector. The findings are expected to help the ones involved in the field of brick-and-mortar retail trade and shopping centres, to consider and interpret the changes in the buying behaviour of customers during Covid-19 and take advantage of current and future opportunities. Indicatively, they can focus on the age groups who seem more resistant to the external environment influences, possibly combining it with their marital status. In addition, they can draw valuable conclusions about which stores are most vulnerable in a crisis. Food in shopping centres seems to be such a category, although the general perception is that food sector held up well in all phases of the pandemic.

According to Bill Gates, there will be a series of crises in the following years. Therefore, this research is exceptionally timely and seems to provide some useful suggestions for policies and decision making to all those directly concerned with the organization and management of the shopping centres. The contribution of the present research also lies in the global dimensions of the investigated subject. Retail trade with physical stores is one of the pillars of economic activity worldwide. Millions of people and businesses are closely linked or even dependent on this economic sector. Consequently, any changes in this field have a direct positive or negative impact on the lives of millions of people.

While the research has mostly practical implications, it can contribute on a theoretical level to the further interpretation of consumer trends today, in the light of the social change in times of crisis and the impact that the internet and social media have on them. Furthermore, the research confirms -with a reasonably significant sample- at a theoretical level, relevant theoretical frameworks of the analyzed research area: general frameworks, such as the shift in online markets and the effects of the pandemic on consumer behaviour, as well as frameworks, focusing on shopping centres as an essential pole of attraction for consumers around the world.

PROPOSALS

The findings of this study suggest that changes in consumer behaviour and shopping habits, including the trend towards e-services and online shopping, may prompt shopping centres to accelerate their digital transformation. In this way, shopping centres will be able to maintain their leading position and continue to be among the most popular consumers' choices for their purchases while meeting the ever-evolving needs of consumers and having their look on the future.

A quite interesting finding is the shift to the digital purchases, even of the consumers that are frequent visitors of shopping centres. This trend is another point to consider for changing the overall strategy and vision of shopping centres' central idea and dispatch. The central idea of shopping centres is the experience and the pursuit of finding something to buy, but the trend towards digital is in line with general studies on the shift to online shopping and for sure is something that shopping centres should be evaluate.

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JOB SATISFACTION, JOB BURNOUT AND TURNOVER INTENTIONS: LITERATURE REVIEW. DIRECTIONS FOR FURTHER RESEARCHES AMONG GREEK PUBLIC SECTOR EMPLOYEES

Krompa, Anna; Hyz, Alina

Department of Accounting and Finance, University of West Attica, Egaleo, Greece

ABSTRACT

This paper reviews relevant research on the work variables of job satisfaction, job burnout and turnover intention. Gaps concerning literature in the public sector are identified and suggestions are made in terms of further investigation on the levels and inter-relations between the concepts. A more sophisticated understanding of the above will not only contribute to the advancement of science at the theoretical level but will also help the formulation of policy proposals to positively influence levels of staff's well-being, from an HRM perspective. Quantitative research is proposed to be performed in Greece, a country where public administration has often been held accountable for the economic crisis of the past decade.

Keywords: Job Satisfaction, Burnout, Turnover Intention, Public Sector in Greece.

INTRODUCTION

Global competition, the revolution in ICT and the rise of the so-called "knowledge society" have created a new environment for the EU Member States. To reinforce their competitiveness in a dynamically changing work environment, public administrations are putting forward initiatives rooted in New Public Management (NPM); in particular, they opt for practices borrowed from the private sector in an attempt to introduce higher degrees of flexibility in their operations (Karolidis and Vouzas, 2019; Sotirakou and Zeppou, 2005). Within this context, the importance of human resources management for the effective implementation of reform policies and the upgrading of services being offered to citizens is of paramount importance. In addition, even though managers and policymakers should provide appropriate incentives and tools for the continuous development of its staff, so far, no sufficient attention seems to have been paid on their part to the work attitudes, emotional manifestations and behavioral tendencies of its people.

In Greece, public administration's challenges have been at the centre of public debate for years. As the expansion of the state and its long-standing operational deficiencies emerged as an important cause for the country's financial crisis of the past decade, specific policies were included in the Economic Adjustment Programmes that ensued. However, priorities were mainly geared towards a budgetary

rationale (Spanou, 2018), overshadowing any necessary structural reforms regarding the effective management and development of human resources.

Moreover, little is known about the well-being of individuals, job satisfaction and burnout levels, as well as consequences regarding negative job outcomes, such as the intention to leave; the latter is particularly important, given the international trends toward demographic ageing and the need for effective staffing. No doubt, research on the above-mentioned topics intends to lead to specific policy proposals that could be applied in public administrations, considering particular legislative limitations of operation in terms of available tools, as well as in terms of mission compared to the private sector (serving the public interest as opposed to profitability).

Regarding academic research on job satisfaction in the public sector, significant work has been conducted on an international level, while a general conclusion that could be drawn for Greece is the predominance of satisfaction with intrinsic aspects of the job, especially with the nature of the work itself. On the other hand, most of the research on burnout at the national and international level has focused more on human services sectors, such as health, education and social services, while the relevant documentation from surveys among public employees is limited. The turnover intention has also attracted minimal research interest. This might be owing to the idea that turnover intention should not be an issue of concern for human resource managers of the public sector, due to the principle of permanent employment, as well as due to a stereotypical view of people who are not interested in a differentiated career plan.

The present study aims to shed light on variables related to human resource management in the public sector, which had not been adequately studied in detail so far. The study of job satisfaction, burnout and intention to leave in a sample of civil servants is expected to help clarify the relationship between them at a theoretical level, and to formulate policy proposals from a human resource management (HRM) perspective, at a practical one.

THEORETICAL BACKGROUND

Job Satisfaction

Job satisfaction is one of the most studied topics in organizational behaviour research, with more than 12.000 studies having been performed on the subject until 1995 (Roy and Avdija, 2012). According to Locke, job satisfaction is a pleasurable emotional state based on an individual's job experiences (Locke, 1976, p. 1300), while Spector (1997, p. 2) eloquently defines job satisfaction as to whether employees feel positively or negatively about their jobs. We could contend that theories on job satisfaction largely overlap with theories on work motivation, which are grouped into content theories and process theories; the former focusing on needs/deficiencies an individual tries to accommodate (e.g. Maslow's

hierarchy of needs, Herzberg's two-factor theory, McClelland's human motivation theory, Alderfer's ERG theory), while the latter focusing on the way decisions/thoughts affect work motivation (Adam's equity theory, Porter-Lawler's expectancy model). Numerous factors, either of demographic nature or organizational ones, have been studied in the literature as antecedents of job satisfaction. To name a few, there seems to be a positive relationship between age and job satisfaction, probably attributed to the changing expectations over a person's lifetime, whereas the same cannot be argued as regards gender, where no consistent trend can be identified. Higher education levels have been associated with lower job satisfaction (Clark and Oswald, 1996), yet a positive relationship seems to exist as regards higher levels in the chain of command (Agarwal, 1992, p. 307). Genetic/individual predispositions and personality traits (Judge *et al.*, 1998; Saari and Judge, 2004; Staw and Ross, 1985) have been also added to the equation. Further, a job that includes enjoyable tasks, a variety and clear-cut roles, an inspirational and supporting leader, having the opportunity to interact with others in a workgroup, implementing an acceptable/ fair system for promotions and rewards (McKenna, 2000, p. 277), along with succeeding a good person-organization fit (Aamodt, 2016, p. 366) have also been associated with greater job satisfaction levels. Droussiotis and Austin (2007) emphasize the need to provide managers with attractive remuneration, highly skilled staff and possibilities for personal growth and self-fulfillment, so as to increase their job satisfaction levels. Last, even though the framework differentiating employment between the public and private sectors can be a key factor in explaining variations in job satisfaction levels (Wright and Davis, 2003), no systematic pattern exists in the literature. Relevant to the above, is Public Service Motivation (PSM) (or public service ethos), a notion that can be predictive of several positive work outcomes, job satisfaction being among them (Naff and Crum, 1999).

Job satisfaction's importance at the individual and organizational level is well documented. Not only it may have spillover or compensational effects on an employee's personal life, but it can also impact organizational performance to a more significant degree than was believed in the past (Saari and Judge, 2004). Moreover, satisfied employees are more likely to be motivated and committed (Al-Sada *et al.*, 2017). Absenteeism and employee turnover are negatively associated with job satisfaction, however, several moderating factors, such as poor economic conditions making it difficult to find a new job, may influence this relationship. Two of the most widely used scales for job satisfaction measuring are the Minnesota Satisfaction Questionnaire (MSQ) and Job Descriptive Index.

In Greece, a significant number of studies have been performed regarding job satisfaction in the public and other related sectors. While instruments implemented to measure job satisfaction may vary, one general conclusion that can be drawn is the superiority of participants' satisfaction with intrinsic aspects of their work, especially with its nature. Chatzopoulou *et al.* (2015) investigated motivation and

job satisfaction levels among a sample of local authority employees and found that the nature of work and working conditions were the most important factors for shaping job satisfaction, regardless of gender; on the flipside, earnings were least satisfying. Batiou and Valkanos's (2013) research among Greek civil servants revealed moderate levels of job satisfaction. Among demographic variables, age was only found to be affecting job satisfaction; education had no significant impact on either individual facets or overall job satisfaction. One intrinsic (nature of work) and two extrinsic aspects (supervisor and co-workers) received high satisfaction scores. The lowest (extrinsic satisfaction) scores were recorded on operating conditions, that might be attributed to the bureaucratic nature of work in the public sector.

Burnout

Burnout has not always been an academically established subject; it first appeared as a term in pop psychology in the United States in the 1970s. Initially, burnout was identified as a social/occupational problem, rooted mainly in the experiences of human services professionals, where the interaction between provider and recipient is key (Maslach *et al.*, 2001; Maslach *et al.*, 2008). Maslach, the pioneer of research in the field, defined burnout as "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do 'people work' of some kind" (1982, p. 2). The three dimensions of burnout are: emotional exhaustion, referring to feelings of overextension and deprivation of emotional resources; depersonalization, referring to negative and cynical attitudes toward recipients; and a reduced sense of personal accomplishment, referring to the tendency of individuals to negatively evaluate themselves, especially when working with clients/recipients. The expansion of the research to sectors outside human services lead to a new conceptualization of job burnout: a prolonged response to chronic emotional and interpersonal stressors on the job, defined by the three dimensions of exhaustion, cynicism, and reduced professional efficacy (Maslach *et al.*, 2001). Many other definitions exist, echoing the complexity of the phenomenon, but also reflecting it as either a state or a process.

To shed more light on the phenomenon of burnout, a series of models have been proposed; Leiter's process model, Moore's causal attribution approach to work exhaustion, Demerouti et al.'s Job Demands-Resources Model, Golembiewski's phase model, Cherniss's transactional model are indicatively mentioned. Maslach and Leiter have also developed a framework focusing on the degree of (in)compatibility between the individual and six (6) areas of the work environment (workload, control, reward, community, fairness, values). The greater the gap/ mismatch, the greater the risk of burnout; the greater the compatibility, the greater the likelihood of work engagement (Leiter and Maslach, 2003).

Causes of burnout can be either personal characteristics of the individual or organizational variables. Maslach *et al.* (2001) point out that the relationship of individual characteristics with burnout is less strong than its association with situational factors, suggesting that burnout is more of a social phenomenon than an individual one. Indeed, age has been proven as an important antecedent factor of burnout, that seems to occur rather early in a person's career; however, gender and education do not seem to follow a consistent trend as to their strength of association with burnout. In terms of marital status, there is evidence to suggest that those who are not married (especially men) are more prone to burnout than those who are. Also, single individuals are more prone to burnout than divorced people (Schaufeli and Enzmann, 1998, p. 77; Cordes and Dougherty, 1993). Workload and time pressure can explain 25-50% of the variance in burnout, especially as regards emotional exhaustion (Schaufeli and Enzmann, 1998, p. 82). Even though role conflict and role ambiguity may have a significant impact on burnout, Singh *et al.* (1994) report that role stressors can have both negative and positive (motivational) effects. Social support, stemming from either the organization or from one's personal relations, is an important means for preventing and tackling burnout; it has been further proven that lack of support from supervisors is more important than lack of support from colleagues about the burnout experience. Lack of feedback, lack of contingent rewards or presence of non-contingent punishment, as well as inability to participate in decision making are also linked to burnout (Schaufeli *et al.*, 1993, p. 83; Cordes and Dougherty, 1993). What's more, the idea that burnout develops due to the emotional challenges involved in recipient contact, therefore that is an idiom of the human services professions, has found no general empirical evidence, as the various common job-related stressors (e.g. workload, time pressure, role conflict, etc.) were found to be more associated with burnout than other client-related stressors (e.g. coping with death, interaction with chronic patients, etc.) (Maslach *et al.*, 2001).

Burnout may impact a person's life in various ways, be it through health issues, psychosomatic symptoms, depression or problems in interpersonal relationships. At the organizational level, emotional exhaustion and depersonalization are negatively associated with organizational commitment ($r=-.43$, $r=-.42$, respectively) (Lee and Ashforth, 1996). Surprisingly enough, a survey of software developers revealed that burnout sufferers performed better (Singh *et al.*, 2012). It has been also found that emotional exhaustion is positively associated with turnover intentions ($r=0.44$), the same as depersonalization ($r=0.31$), while personal accomplishment is negatively related ($r=-0.16$) (Lee and Ashforth, 1996) to it. On the other hand, there is a positive relationship between burnout and employee turnover, yet weaker than the relationship with intention to leave. There might be a case, then, that a large part of people suffering from burnout remains in their jobs against their will (Schaufeli and Enzmann, 1998, p. 91).

MBI is considered the gold standard in measuring burnout (Maslach *et al.*, 2008). It comprises 22 items

corresponding to the three burnout sub-scales; high scores on emotional exhaustion and depersonalization and low scores on personal accomplishment reflect high levels of burnout. MBI-GS is used for occupational groups such as customer service, management, etc. OLBI (Oldenburg Burnout Inventory) is an alternative for the assessment of burnout, including two central dimensions, exhaustion and disengagement from work (Maslach *et al.*, 2008).

In Greece, research on burnout has mainly focused on the health and education sectors; Koustelios and Tsigilis (2005) proved that burnout levels among a sample of 175 physical education teachers were relatively low, and that personal accomplishment and emotional exhaustion were the most important antecedents. In the health sector, the situation differs. A study among nursing staff in oncology hospital wards revealed high levels of emotional exhaustion and depersonalization and a reduced sense of personal accomplishment. In terms of emotional exhaustion, demographic variables (e.g. tenure, seniority, age) were not statistically significant. Gender was also not associated with any burnout dimension. Emotional exhaustion negatively affected satisfaction in various aspects of work-life, as well as in health, while nurses' diminished personal accomplishments had a negative impact on their relationship with patients (Roupa *et al.*, 2008). A survey of practicing physicians in the Greek National Health Service, the UK and Germany (2016) found that the burnout dimensions of emotional exhaustion and personal accomplishment were gender-related (women in terms of emotional exhaustion and men of personal accomplishment). Other factors related to burnout were a specialty, working hours, support, autonomy and country. About 1/3 of the residents practicing in Greece had high burnout levels in all dimensions (Salpigktidis *et al.*, 2016).

Burnout and job satisfaction

Even though the strength of the relationship between (reduced) job satisfaction and burnout indicates that they overlap to some extent, this doesn't mean that they are identical (Burke and Richardsen, 2001). More specifically, research suggests that job satisfaction is moderately negatively associated with emotional exhaustion and depersonalization, yet only a weak correlation with personal accomplishment exists (Maslach *et al.*, 1997). Lee and Ashforth's (1996) meta-analysis revealed that the association between emotional exhaustion and job satisfaction was $r = -0.31$, between depersonalization and job satisfaction was $r = -0.44$, and between personal accomplishment and job satisfaction was $r = 0.29$. According to Schaufeli *et al.*, (1993), the negative correlations between job satisfaction and burnout ranges between 0.35 and 0.45 in terms of emotional exhaustion, 0.25 and 0.35 in terms of depersonalization, while in terms of personal accomplishment, the corresponding indicators are positive but not significant. Nevertheless, as Kahill (1988) states, the correlation between individual aspects of job satisfaction and burnout is more difficult to confirm, due to the limited number of existing studies.

Job satisfaction is one of the most thoroughly studied consequences of burnout (Schaufeli and Enzmann, 1998, p. 98). A study conducted in the Iranian public sector confirms the negative effects of burnout, not only on job satisfaction but also on other work outcomes, such as organizational commitment and intention to leave (Matin *et al.*, 2012). One of the few longitudinal studies that have examined the relationship between burnout and job satisfaction is that of Wolpin *et al.* (1991), who found that emotional exhaustion was the cause of reduced job satisfaction among a sample of school-based staff. Other studies using multiple regression analyses have revealed that burnout, particularly emotional exhaustion, can predict job satisfaction, although the variance is not large. Overall, results suggest a causal relationship between burnout and job satisfaction (Burke and Richardsen, 2001), however, it could be argued that available documentation is not sufficient to strongly support this hypothesis.

Even though it is reasonable to assume that reduced job satisfaction could be a symptom of burnout, it could also be possible that burnout is a manifestation of job dissatisfaction. According to the study of Kalliath and Morris (2002) in a sample of nursing staff, job satisfaction was found to be an antecedent factor for burnout, first impacting emotional exhaustion and then depersonalization (through emotional exhaustion). Among the three burnout dimensions, emotional exhaustion seems to be more vulnerable to the consequences of reduced job satisfaction. On the contrary, it could be argued that maintaining high job satisfaction levels, especially in stressful work environments may act as a buffer against burnout. Moreover, research in the Dutch medical sector revealed that stress and reduced job satisfaction were important predictors of burnout, especially in the emotional exhaustion subscale, with 41% of the variance explained (Visser *et al.*, 2003).

However, the specific nature of the relationship between burnout and job satisfaction needs to be further explored. Does burnout make people dissatisfied? Or is a decline in job satisfaction the root cause of burnout? Alternatively, a third factor could be responsible for unfavourable scores in burnout and job satisfaction (Maslach *et al.*, 2001; Maslach and Schaufeli, 1993).

Turnover intention

The turnover intention of public sector employees is an important issue, affecting both the work/personal lives of individuals and their (former) colleagues, as well as the good functioning of public services. Staff turnover can take the form of transfers to other positions outside the organization, resignations or retirements. Even though retirements and the general trend towards staff mobility can potentially lead to a silent crisis affecting governments' capacity to implement public policies and to loss of institutional memory, yet zero turnover rates shouldn't be considered ideal.

Employee turnover is conceptually associated with organizational commitment, since, as Mowday *et al.* (1982, p. 43) stated, employees committed to an organization tend to believe in and deliver on its goals

and values, make a significant effort on behalf of the organization, and maintain participation in it. For Allen and Meyer (1990), common to all definitions of organizational commitment is the link with turnover.

Apart from voluntary, turnover can also be involuntary. Turnover intention refers to the likelihood that a person will quit their current job. It is a conscious and deliberate desire to leave, as well as a significant antecedent for actual turnover (Tett and Meyer, 1993).

The turnover theory includes content and process models. Content models try to explain the reasons why individuals leave and have been criticized for the relatively weak explanation of variance in turnover. This drawback has turned research into examining the process of how individuals decide to quit their jobs (process models). Some of the most important content models are March and Simon's and Porter and Steers's. Some of the most important process models are Steers and Mowday's, Mobley's and Mobley, Griffeth, Hand and Meglino's (Singh and Sharma, 2015).

For many scholars, studying turnover intention is preferable to actual turnover. First, research has revealed a strong correlation between turnover intention and actual turnover. For instance, Tett and Meyer (1993) confirmed that intention to leave is the most important predictor of actual turnover, but the effect's magnitude casts doubt on whether the two notions are interchangeable. Steele and Ovalle (1984) not only found a strong correlation between turnover intention and turnover but also showed that turnover intention is a better predictor of turnover compared to other variables, such as job satisfaction and organizational commitment. Second, the role of intentions for performing a behaviour is highlighted in the Theory of Planned Behavior (Ajzen, 1991). Intentions reflect the motivating factors that influence behaviour and are indications of the effort that individuals are willing to undertake. Third, by choosing to assess turnover intention over actual turnover, managers may understand reasons affecting intentions and intervene by adjusting before being too late (Lambert and Hogan, 2009).

Whether discussing turnover intention or actual turnover, antecedent factors may fall into environmental, personal or organizational categories. High unemployment rates (or individual perceptions of the status of the economy or employment) may have a negative influence on someone's decision to go in search for a new job. This view was not verified during the Greek debt crisis, where the brain drain phenomenon took on great proportions. The effect of social networking and support has also been examined, although no consistent results are always available. A fair promotions system, attractive pay levels and policies facilitating development, should make a positive contribution to employee retention. Moynihan and Pandey (2008) suggest that if an organization manages to identify and cultivate congruent value fields with its staff, then this will have a significant negative impact on

turnover intentions. Organizational commitment, although closely related to turnover, is not more strongly associated with the turnover intention than job satisfaction is (Tett and Meyer, 1993).

The relationship between job satisfaction and employee turnover is one of the most extensively studied in the literature. It is expected that those dissatisfied with their jobs are more likely to leave. The relationship between turnover and job satisfaction is opposite, yet relatively weak (0.25 correlation), while the same seems to be the case with other similar behaviours, such as arriving late at work, general withdrawal, etc (Judge *et al.*, 2002). It is also possible that organizational commitment is among the factors mitigating the job satisfaction - turnover relationship; similarly, the status of the economy plays a role (Khanka, 2020, p. 106), as dissatisfied employees will tend to stay in their jobs at times of economic uncertainty.

As regards burnout, intention to quit shares 20% variance with emotional exhaustion, 12% with depersonalization and 6% with a reduced sense of personal accomplishment (Schaufeli and Enzmann, 1998). It has also been found that turnover intention was positively associated with emotional exhaustion and depersonalization ($r_c=0,44$, $r_c=0,31$, respectively), and negatively associated with personal accomplishment ($r_c=-0,16$) (Lee and Ashforth, 1996). According to Lee and Jimenez (2011), the relationship between age and intention to leave is likely to be a U-shaped curve, while Lambert and Hogan (2009) suggest that older employees are more likely to continue membership in an organization, due to greater involvement with their work, bigger financial and family obligations, but also due to age discrimination in the search for a new job. Job tenure seems to follow the same pattern in terms of its association with turnover, as age does. The effects of gender are not always consistent; Moynihan and Landuyt (2008), who found that women are less likely to plan to leave, highlight the changing characteristics of women's participation in the workforce and the more favourable provisions of the public sector towards them. It is also reasonable to expect that the higher the level of education, the greater the intention to leave, due to the greater prospects provided by learning.

Except low-performing workers leaving, the negative effects of losing talented employees might be a decline in productivity and quality of services provided, additional training costs for the new staff, overtime expenses, decrease in morale and trust between those left behind. All above-mentioned may be more detrimental to public administration, as the replacement of staff requires cumbersome and time-consuming legislative procedures.

In contrast to other constructs, in the case of turnover intention, no established measurement instrument appears to exist. According to Dwivedi (2015), "the literature revealed a stark scarcity of statistically validated scale on turnover intentions". There are cases when one global question is used, while in other occasions, specially constructed scales are used, such as that of Boshoff and Allen (2000), or that of Jensen *et al.* (2013).

The reasons why civil servants leave their organization is a key question for human resource managers and researchers of organizational theory (Moynihan and Landuyt, 2008), while according to Mitra *et al.* (1992), turnover is one of the most popular work outcomes studied in organizational research. However, only in recent years has the issue been a concern for public administration scholars (Lee and Jimenez, 2011). According to Meier and Hicklin (2008), empirical studies on public employee turnover are limited in numbers, while Selden and Moynihan (2000) note that while the subject has been extensively explored in the private sector, levels of staff turnover have not attracted much interest in the public sector research. Lee and Whitford (2008) make a similar observation regarding an employee's intent to leave.

RESEARCH IMPLICATIONS

This study suggests several areas where future research might be focused. A first research priority concerns the investigation of the psychological well-being of civil servants, whether they are satisfied with their jobs, face any risk of burnout and whether the intention to leave should be an issue of concern to politicians and managers. This question is of particular importance in a country like Greece, where several reforms took place during the crisis of the past decade or are currently being implemented in the public sector; however, such reforms seem to be focusing more on structures, staff selection procedures or financial management, but to a very limited extent on the psychological well-being and human resource development.

A second priority is related to a research question that has been extensively discussed in the literature but has not been adequately tackled so far and concerns the intensity and direction of the relationship between job satisfaction and burnout, as well as among the individual dimensions out of which they are composed. One could expect that job satisfaction is negatively related to burnout dimensions "emotional exhaustion" and "depersonalization" and "reduced sense of personal accomplishment", and that both variables operate as predictors/ consequences of one another. But which relationship is stronger and how could such a result be explained in terms of the relevant theory? Which is the most important dimension of burnout in terms of its association with job satisfaction? What are the most important dimensions of job satisfaction that can act as buffers against the risk of burnout?

A third research priority has a greater applied emphasis: What are the possible factors that affect job satisfaction, burnout and turnover intentions? In addition to advancing the theoretical understanding, formulating concrete proposals should be a necessary component of any study like this, given that human resource management can impact the provision of quality public services to the benefit of citizens. In terms of job satisfaction, the effect of demographic factors, as well as the importance of its different facets calls for a deeper review. Respectively, in terms of burnout, not only the effect of

individuals' characteristics needs to be examined, but also the dynamics of the relationship between its three dimensions. Finally, it is necessary to assess the public employees' desire to leave their jobs, examine whether its level depends on specific individual conditions and whether both job satisfaction and burnout act as antecedent factors. A deeper understanding of the above will help policymakers put into practice all necessary adjustments, considering the limitations of legislation, so as to ameliorate the work environment for the staff and improve public performance in the long run.

CONCLUSION

This review suggests that there is a need for a deeper understanding of the concepts of job satisfaction, burnout and turnover intention among human resources in the public sector, which is a key factor in the implementation of government policies and programs. Also, despite important progress made so far, significant gaps still exist in the literature, such as adequate research on turnover intentions in the public sector and clarification of the relationship (intensity and direction) between job satisfaction and burnout. Given that management in government is different from private business or industry (although in recent years the first has been "borrowing" practices and tools from the second), the results of a more systematic quantitative research in the field are likely to surprise practitioners and policymakers as the required interventions may be related to factors other than the increase of public expenses.

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GREEN HUMAN RESOURCE MANAGEMENT: A SYSTEMATIC LITERATURE REVIEW

Labella-Fernández, Ana; Payán-Sánchez, Belén; Serrano-Arcos, M. Mar

Economics and Business Department, University of Almería, UAL, Almería, Spain

ABSTRACT

Green Human Resource Management (GHRM) has emerged as one of the key tools firms can deploy to implement green strategies, integrate environmental sustainability into business models, and therefore achieve green performance goals. Given its relevance for management and firms, in the last decade, this research field has awoken the attention of many scholars, leading to an increasing number of studies on GHRM, although it remains a relatively young and emergent field at present. The main objective of this paper is to analyze what has been studied about GHRM and contribute to a better understanding of the current research field, providing insights for present and future research directions. To this end, we conducted a systematic literature review, yielding 125 relevant papers, from which the antecedents, mediators, moderators, and outcomes of GHRM were analyzed, offering a general model to synthesize previously published empirical work at the organizational and individual levels of analysis. Articles published from 2010 to 2021 were analysed, given that GHRM represents a relatively new topic of research. Both models synthesize and integrate what is known about GHRM and make the GHRM field of inquiry more accessible to scholars, which, in turn, allows them to advance this field of research. The review reveals that the present GHRM literature is still young and emergent but fast-growing, revealing that many issues remain unanswered.

Keywords: Green Human Resource Management; Systematic review; Future Research agenda.

INTRODUCTION

Environmental issues have emerged as one of the most critical and urgent societal priorities (Howard-Grenville *et al.*, 2014; George *et al.*, 2016; Potocan *et al.*, 2016). Consequently, organizations around the world are under constant pressure to go green and adopt and implement green initiatives. In this direction, there is a need for businesses to integrate environmental management into their HRM functions and practices (Paillé *et al.*, 2014; Renwick *et al.*, 2013; Taamneh *et al.*, 2018). The past decade has seen the growing importance of GHRM research (Paulet *et al.*, 2021). This research stream has emerged as one of the most important tools not only to integrate environmental sustainability into

business models, but also to implement green strategies and achieve green performance goals (Ren et al., 2018). Despite the burgeoning research on GHRM in the last decade, it is relatively scarce at present. Most of the extant literature addresses GHRM at the organizational level (e.g., Longoni et al., 2018; Mousa and Othman, 2020; Obeidat et al., 2020; Yong et al., 2020), while a growing body of research has focused on the individual level of analysis (Paillé, Valéau and Renwick, 2020; Ansari, Farrukh and Raza, 2021; Nisar *et al.*, 2021). However, the existing empirical research remains limited in terms of green HRM antecedents and how it influences outcomes, as well as its mediating and moderating processes both at organizational level and individual level of analysis.

Prior reviews focused on taking stock of GHRM practices and analyzing the functions of GHRM (e.g., Renwick et al., 2016, 2013). As the field of GHRM has evolved, recent reviews have been published addressing specific research questions. Paulet et al. (2021) carried out a meta-analysis of review papers and identified ten reviews published on green HRM. For example, Amrutha & Geetha (2020) conducted a review to examine the state-of-the-art of GHRM practices and study the implications for social sustainability. Pham et al. (2019) reviewed the literature to analyze theoretical perspectives and the main characteristics of published articles. For their part, Ren et al. (2018) focused on the examination of the concept, the measures and the theoretical basis developed, as well as systematically reviewing 29 empirical papers and examining the antecedents, contingencies, and outcomes of GHRM from the strategic HRM perspective.

We aim to extend the work of Ren et al. (2018), as the volume of scholarly empirical work focusing on GHRM has grown exponentially in the last three years. Therefore, a systematization of extant empirical findings is required to contribute to a better understanding of this research field and provide insights into present and future research directions. To this end, we have conducted a systematic literature review (Tranfield, Denyer and Smart, 2003), yielding 125 empirical papers. However, in contrast to previously published reviews, our paper only takes into consideration published empirical papers that study GHRM from a system-based perspective. The literature argues that GHRM practices need to be implemented as a system (following AMO framework: ability-motivation-opportunity practices or the general dimension of HRM systems, which includes, for example: green recruitment and selection, green education and training, pay and reward systems, green appraisal and performance management, green communication, green teams, empowerment and supportive managerial behaviors) (Guerci and Carollo, 2015; Wehrmeyer, 2017). GHRM practices typically reinforce each other and may produce synergies when they are aligned with the global pro-environmental corporate and HRM strategy (Jackson and Seo, 2012; Martínez-del-Río, Céspedes-Lorente and Carmona-Moreno, 2012). Therefore, it is urgent to adopt a system-based perspective in GHRM research.

Accordingly, the contributions of this article are twofold. First, it provides an integration of the GHRM literature by offering two general models to synthesize previously published empirical work at the individual and organizational levels of analysis. Second, building upon the two models, the study aims to provide a critical analysis of what is known, by providing an overview of the state of the research, and what is unknown, by outlining a promising research agenda.

The remainder of the paper is organized as follows. The next section presents an overview of the concept of GHRM. Section 3 provides a detailed description of the methodological steps followed to conceive and develop the systematic literature review, provides descriptive statistics of the sample articles identified as relevant according to the systematic literature review approach and explains the strategy adopted for the analysis of the articles. Then, the following section systematizes and analyzes the main findings of the sample articles. Section 5 summarizes the main contributions of the paper, presenting the discussion and directions for future research. Finally, the last section presents the final remarks and limitations of the study.

GREEN HUMAN RESOURCE MANAGEMENT

Green HRM refers to “a set of people-centered practices oriented toward developing and maintaining the workforce’s abilities, motivation, and opportunities to contribute to an organization’s economic and environmental sustainability” (Labella-Fernández and Martínez-del-Río, 2020). GHRM practices are also defined as HRM practices that increase employees’ environmental awareness and shape their behaviors and conduct to create environmentally friendly attitudes not only in their working life, but also in their private life (Saeed *et al.*, 2019). GHRM involves the adoption of diverse groups of best practices such as recruitment and selection, training and education, performance and reward management and employee involvement (Renwick *et al.*, 2013). Table A1 in Appendix A summarizes the definitions developed in the literature.

METHODOLOGY

Following Tranfield *et al.* (2003), we adopt the systematic literature review approach to analyze the state-of-the-art of GHRM to present what is known and which gaps exist in the field of research.

Systematic literature search

Initially, potentially relevant articles were retrieved using the database Scopus. Previous research studies have demonstrated that the Scopus database covers a greater number of academic journals than other databases such as Web of Science (Mongeon and Paul-Hus, 2016). The material search phase was conducted in January 2022. We searched for articles published from 2010 to 2021, given that GHRM represents a relatively new topic of research. To identify all relevant publications within the

scope of the research field, we defined the following search terms and combinations: ("green" OR "greening" OR "environmental" OR "ecological" AND "hrm" OR "human resource management" OR "human resources" OR "human resource management practices"). We limited the search strategy to peer-reviewed journal articles since they are considered the most valid scholars (Podsakoff *et al.*, 2005; Ordanini, Rubera and DeFillippi, 2008). We therefore excluded books, book chapters, discussion papers and other non-refereed publications, as well as introductions to special issues, previously published literature reviews and conference papers. We also decided to exclude papers not written in English. Our initial search on Scopus returned 1392 results, which were then manually screened. Following Pittaway *et al.* (2004), the relevant articles were chosen through two rounds of screening. First, the title and abstract of the articles were read in parallel by two researchers, plus a third in case of uncertainty. In the second round of screening, two researchers, plus a third in case of uncertainty, read the full text of the papers. In this phase, we excluded those papers that only study an isolated dimension of GHRM (e.g., green training). At the end of this process, 125 papers were obtained, composing the sample of the present literature review.

Descriptive statistics

Several descriptive dimensions of the sample are assessed including publishing year, publishing journal, and the level of analysis.

According to the distribution over time, the descriptive analysis suggests that GHRM is a very recent topic. More than half of the papers were published in 2021 (41 papers; 32.8%) and 2020 (42 papers; 33.6%) demonstrating the most relevant growing trend in the last two years. Among all the journals covered in the sample, the most representative are Journal of Cleaner Production (18 papers published), Sustainability (10), International Journal of Manpower (6), Benchmarking: An International Journal (6), Corporate Social Responsibility and Environmental Management (5), and International Journal of Productivity and Performance Management (4)

FUTURE LINES OF RESEARCH

Although current research offers valuable insights and implications for both theory and practice, highlighted in this systematic literature review as antecedents, mediators, moderators, and consequences of GHRM practices (see Figure 1 and 2), there are still some areas that are underdeveloped or even unexplored. To deal with these possible shortcomings, some suggestions are presented to be addressed in future research. Many scholars reported a major limitation in their studies related to the specificity of the results because of their country or industry context. In this sense, the results obtained from one country could not apply to other countries due to cultural differences across countries or even differences in government regulations across countries, which

was also the case with the industrial context. Consequently, many studies have reported findings only valid within a specific industry or country, with authors acknowledging that their results were specific to the particular country or industrial context, and even to a specific company, thus preventing the generalization of the results (e.g., Acquah et al., 2021; Agyabeng-Mensah et al., 2020; Amjad et al., 2021; Danilwan et al., 2020; Freitas et al., 2020; Gilal et al., 2019).

Therefore, future studies can yield richer insights into their research by incorporating different cultural and ethical factors into the existing models, allowing comparative studies between countries, regions or even industries that could enhance current understanding in the GHRM field, with clearer and more consistent recommendations for managers. More specifically, with these new studies including different cultural settings, the impacts of some variables on GHRM could be better perceived and described, as can be the case with GSCM and its effect on a firm's performances (Longoni, Luzzini and Guerri, 2018; Agyabeng-Mensah et al., 2020; Acquah, Agyabeng-Mensah and Afum, 2021), organizational citizenship behavior (Danilwan et al., 2020), CSR (Freitas et al., 2020, 2021), environmental performance and its effect on different firms' performances (Ghouri et al., 2020; Amjad et al., 2021), individual green values (Gilal et al., 2019), green behaviors (Luu, 2019), or gender (Chaudhary, 2018, 2020), among others.

As other authors have already asserted, we believe that management practices differ significantly across firms and countries, and GHRM practices may also vary across firms and businesses as well as across developed and developing economies (Gilal et al., 2019). As such, future research may consider replicating the studies in other sectors (different than manufacturing and hospitality) such as food, logistics, higher education, nonprofits, or healthcare, as well as comparing public and private sectors and different countries to search for similarities/differences across different settings.

Given the relevance of culture in HRM, we call for future research to investigate Hofstede's cultural dimensions (encompassing power distance, masculinity/femininity, individualism/collectivism, uncertainty avoidance, time orientation, indulgence/restraint), which are used in several fields of management, especially business and management (see e.g., Cooke et al., 2019). In this sense, future studies could categorize the various cultures and enact a fundamental underlying truth, namely whether national cultures differ, and consequently, this will affect the organizational life. This analysis might explain the continuing influence of this approach, as well as its continued dominance. We consider that the interpretation of previous findings in the literature based on this contextual (culture) interpretation through existing theory could offer complementary and rigorous information that ultimately reinforces and extends our knowledge in this field.

In addition, one issue that should be considered, and that could be related to cultural and contextual factors, is the age of the firm or firms (or even the top management) that are under study, as this could

be a determining factor for the implementation of GHRM practices or even obtaining environmental outcomes. It is widely accepted that newer firms are more proactive in conducting environmental initiatives to contribute to the sustainability of the planet. Thus, a firm's age could be an interesting predictor of GHRM, or even a possible moderator, to be tested in different countries and industries. In addition, psychographic characteristics might influence organizational performance through the extent to which various management practices are preferred and support the relative use of such practices within the organization. Therefore, we call for future works to identify psychographic variables that may be derived from GHRM, as these have not yet been proposed or investigated empirically.

GSCM and OCBE have been widely studied in the literature as having different effects on GHRM, with the latter being studied both at its collective and individual conceptions. In this sense, both have been treated as outcomes of GHRM as well as mediators and moderators in GHRM relationships, but they have not been explored as antecedents of GHRM, which we think could also be interesting to study in future research. Regarding GSCM, most of the studies focused on the internal part of the supply chain, calling for future works also exploring the more external part of it. Something similar happens with CSR, where, most of the time, studies focus only on external CSR dimensions (social, economic and environmental), ignoring the internal dimensions (Al Kerdawy, 2019). Thus, there is a need for future studies verifying the impact of GHRM on both internal and external CSR dimensions. The antecedents identified in the literature are mainly related to different forms of organizational support, top management commitment and environmental orientation, but studies in the future may aim to examine other variables such as organizational identification, green engagement climate, green perceived organizational support or pressure to engage in green practices, which could also be used as moderators, or even as mediators, when dealing with environmentally related outcomes. Specifically, the literature has pointed out the relevance of top leadership in supporting and promoting pro-environmental initiatives (Islam et al., 2021; Jia et al., 2018; Ren et al., 2020), transformational leadership receiving greatest attention (Jia et al., 2018; Singh et al., 2020; Moin et al., 2021; Zhao et al., 2021). Therefore, further research is needed on identifying specific leadership styles and behaviors, as well as environmentally specific leadership styles, which are relevant to effectively implement GHRM practices (e.g., responsible leadership and ethical leadership). In this sense, not only can active leadership types be identified, but even negative leadership styles, such as abusive management or destructive leadership, which could be tested for comparisons. Additionally, future studies could investigate how GHRM interacts with leadership at different levels in the organization (i.e., individual level) to determine whether there are differences, taking into account the individual characteristics, personalities and behaviors of the firm members. Top management support has been analyzed as

promoting GHRM practices, but we consider that it should be also explored, together with organizational culture, employee attitude and individual green values and green climate of the team, as a determining mediator to achieve greater environmental outcomes. Some authors also call for more social and psychological constructs acting as mediators to obtain environmental results, such as organizational pride, human capital, and other motivational perspectives. GHRM can also affect employee outcomes through the mediation of green commitment, green self-efficacy, green trust, or psychological green climate, which should be explored in future studies.

Following Freitas et al. (2020), legal and regulatory requirements are key factors for the adoption of CSR in the organization, which should be considered as mediators or moderators in future research. Literature in the field has also called for more research exploring potential mechanisms through which GHRM affects employee outcomes (Liu, Mei and Guo, 2021). In this sense, some moderators that could be assessed in this relationship and possibly impact employees' green behavior are environmentally specific servant leadership (which has not yet been analyzed at the individual level), green organizational climates, leaders' support for environment and customer empowering behaviors. In addition, it is important future studies include moderators not only with an environmental orientation, but with the individual's characteristics, such as employee engagement, employee discretion, commitment to ethics, equity sensitivity, different personality variables and demographic characteristics (i.e., age, gender, educational level, etc.) to identify if there are significant differences in respondents' environmental behaviors and explore the relationship between GHRM and prospective employee outcomes. Furthermore, the impact on GHRM of other factors such as job loyalty and employee satisfaction in different industries would greatly contribute to this research stream. For example, employee satisfaction can be highly influenced by events arising during a working day and this feature should not be ignored. It is the reason why future works could consider recognized variables that interact with employee satisfaction when predicting individual performance. Finally, the outcomes of GHRM, have received far less attention at the individual level, where other employees' performance attributes could be explored as outcomes, such as individual social performance, operational performance and market performance. Additionally, future studies may test the impact of GHRM on employees' green self-efficacy and green attitude, which could be enhanced through transformational leadership (Jia *et al.*, 2018), as well as on other employees' non-green outcomes related to work attitudes and behavior.

CONCLUSIONS

To study the current state of research on GHRM, we conducted a comprehensive and systematic literature review focusing on the current research that has adopted a system-perspective when

measuring GHRM practices. Our review comes at a time when interest in GHRM has rapidly accelerated. The analysis of 125 published empirical works up until 2021 led us to two general models, both at individual and organizational levels of analysis to present a complete picture of this field. Both models synthesize and integrate what is known about GHRM and make the GHRM field of enquiry more accessible to scholars, which, in turn, allows them to advance this field of research. The review reveals that the present GHRM literature is still young and emergent but fast-growing, revealing that many issues remain unanswered. In this regard, the review contributes with important suggestions for further research.

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Figure 1. Summary of empirical research on GHRM at the organizational level of analysis.

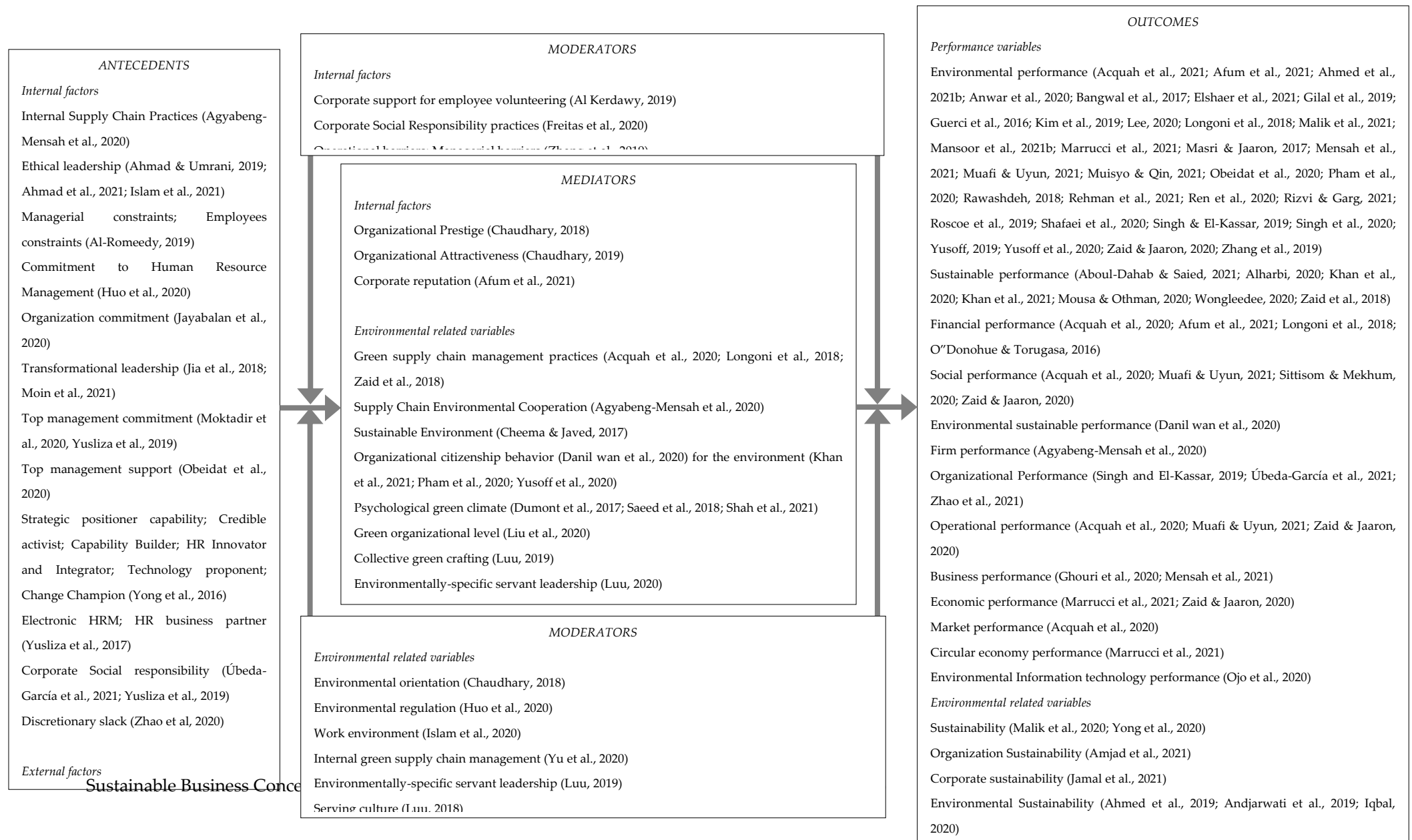
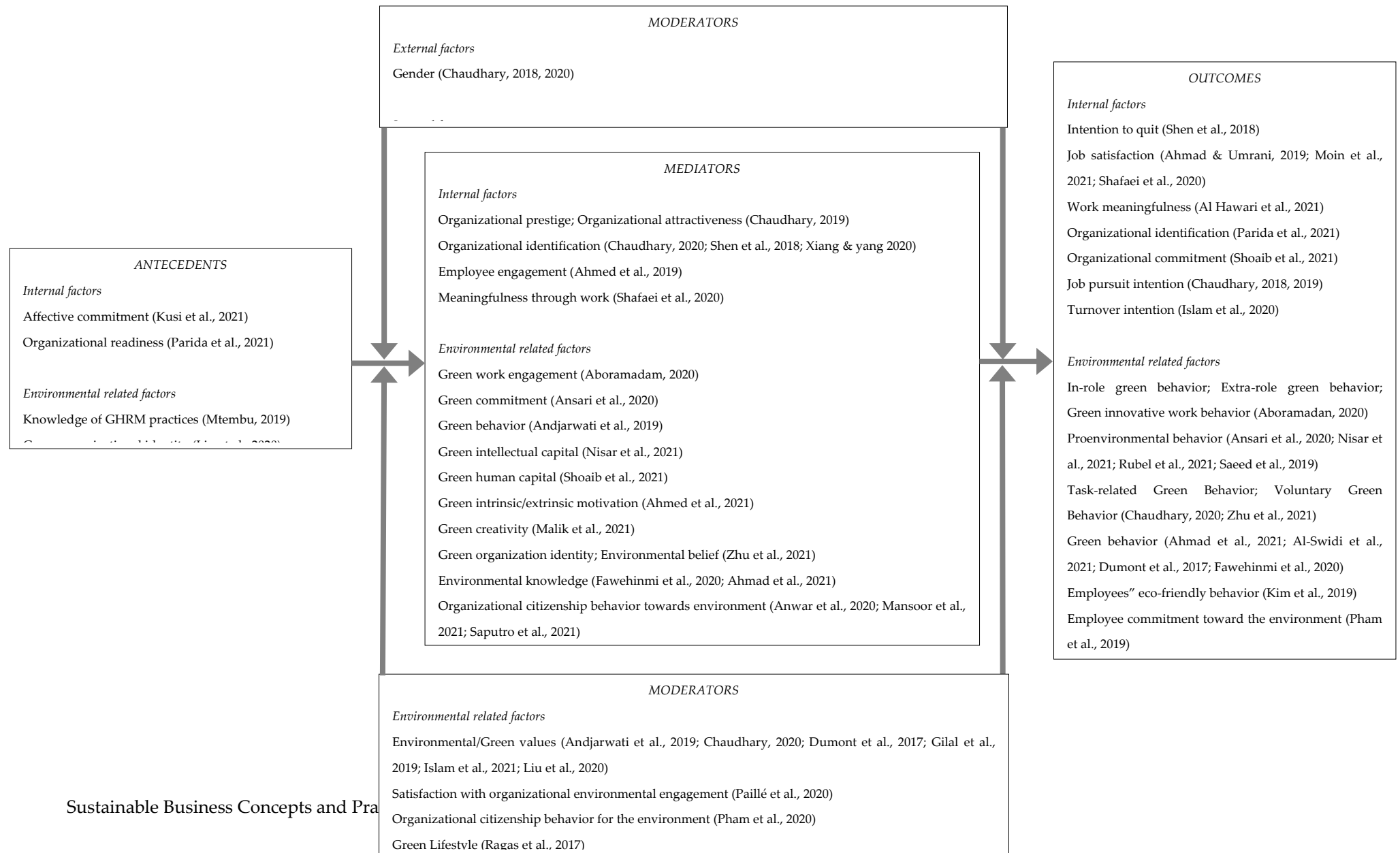


Figure 2. Summary of empirical research on GHRM at the individual level of analysis.



LEVERAGING KNOWLEDGE MANAGEMENT ON BRAND EQUITY IN US LISTED COMPANIES

Magni, Domitilla¹; Scuotto, Veronica²; Usai, Antonio³; Del Giudice, Manlio⁴

¹Department of Economics and Management, University of Catania, Catania, Italy

²Department of Economics, Management, Institutions, University of Federico II, Naples, Italy

³Department of Economics and Business, University of Sassari, Sassari, Italy

⁴Department of Research, Link Campus University, Rome, Italy

ABSTRACT

Several research have claimed that intangible assets have a substantial influence on financial market performance. Intangible assets are a source of sustainable competitive advantage for the company, capable of creating value for all stakeholders. The intangible assets are made up of a set of generic and specific resources and skills which are also represented by the image of company. Such image is built up by a brand that is considered a symbolic attribute of a product. A brand drives a company's competitive advantage through differentiation and positioning strategies. This is linked to brand equity to get high performance and reduce risk. Hence, brand led companies move from tangible to intangible assets leveraged by knowledge. This calls for a knowledge management view to understand the process of brand equity. By applying the knowledge management theory, the paper highlights the re-focus of companies' activities to face with emerging challenges on corporate brand. Hence, the paper proposes three different econometrics models to examine a panel data from 2010-2020 of 180 US listed companies from COMPUSTAT and BrandFinance database. Finding suggest that managers can leverage brand equity as an intangible asset to increase company's financial performance. This paper contributes to the existing literature on intellectual capital and knowledge management through the identification of innovative re-frame of brand equity investments and activities for business performance.

Keywords: intangible assets, brand equity, brand value, knowledge management, intellectual capital, financial performance, company risk, credit rating

INTRODUCTION

Marketing management literature has always emphasized that resources and capabilities have a substantial impact on the firm's performance (Khan et al., 2019; Mokhtarzadeh et al., 2020), and recognized the role of specific marketing resources, such as brands, in obtaining and sustaining a competitive advantage. The Resource-Based Theory stresses that a company's most valuable asset (i.e.,

brand) should be identified and used in order to optimize its value (Barney, 2014). Yet, a firm's brand value is one of its most valuable assets: it generates potential revenue while also revealing how customers perceive, form opinions, and behave toward the organization. For this reason, a considerable literature has grown around the relationship between intellectual capital and company performance (Chen et al., 2005; Madden, et al., 2006; Fehle et al., 2008; Maditinos et al., 2011; Voss and Mohan 2016). Brand is a set of signs, meanings, and experiences that perform a cognitive-identifying function and help to inform the consumer (brand awareness). While the meanings perform an emotional-attitudinal function and help the consumer to better perceive the value (brand image), the experiences perform a predictive trust function and help the consumer to increase its level of confidence (brand loyalty) in the system of supply of the company. Based on these considerations, brand is the synthesis of trusted resources (Delgado-Ballester and Munuera-Alemán, 2005) and of the company's relations with the market and performs the functions of differentiation, orientation, guarantee, and personalization. Hence, the brand is a specific intangible susceptible to autonomous evaluation (Melović et al., 2021). There are several definitions of brand equity in the literature, but most are aligned with Farquhar's (1989) definition: brand equity is the value that a brand provides to the firm's products. Basically, brand equity has three different perspectives (Keller and Lehmann, 2006): 1) consumer-based; 2) product-market level; and 3) financial-based. By adopting risk measures, previous studies have highlighted that firms with strong brand equity can register a low total equity risk compared with other firms (Rego et al., 2009; Yildiz and Metin Camgoz, 2019). Thus, this paper suggests that managers can improve investments in branding, as an intangible asset, to increase financial performance. As a result, the term of brand equity has taken is twofold, referring to both the added financial worth of a product as a result of the branding strategy (Voss and Mohan 2016), and the influence that brand awareness has on the consumer's engagement (Torres and Tribó, 2011).

Since most companies draw their competitive advantages from intangible assets, it is usual for consumers to get information from an expanding number of sources, which changes their demand at an unprecedentedly quick rate. As a matter of fact, to face with emerging challenges, knowledge management (KM) is gaining relevance in corporate brand. Indeed, Peñalba-Aguirrezabalaga et al. (2021) stated that KM systems have a significant impact on marketing performance and investments to produce superior customer experiences. Apparently, KM processes consist on different stages of creation, confirmation, collection, classification, sharing, use, and retirement knowledge to improve corporate performance (O'Dell & Grayson, 1998). In other words, by applying the KM approach, the value created by intangible assets is ultimately what determines a company's success. As result, to shed light on the impact of intangible assets on business performance and risk, previous research has indagates the role of KM as a critical source of business competitiveness (Campos and Sánchez, 2003;

Rodriguez-Castellanos et al., 2011; Del Giudice and Della Peruta, 2016). In this vein, KM approach can be a driver for firms' intangible assets (i.e., brand) to trigger business performance and to reduce financial risk. Despite that a paucity of study on brand equity and knowledge management is offered. Hence, this study focuses on panel data from 2010-2020 of 180 US listed companies from COMPUSTAT and BrandFinance database. All hypotheses are tested through a multiple econometrics' models using the statistical packages IBM SPSS 25.0. As resulted, we found that brand equity reduces the variable of debt-holder-risk of the company, thus highlights significant relations between intangible asset and financial performance. On a theoretical and practical basis, the research contributes to enhancing the current marketing and knowledge management literature by providing an innovative framework to evaluate the impact of intangible assets on business performance and risk. Furthermore, the results indicate that it is vital to maintain investing in the brand even during times of uncertainty.

Rest of the paper is organized as follows: next paragraph provides the theoretical background on intangible assets and brand equity in a knowledge management approach. Afterwards, the empirical study and results are presented. Concluding, the paper provides discussion and implications of the analysis. Final remarks and limits are presented in the last session.

LITERATURE REVIEW AND RESEARCH HYPOTHESES

Intangible assets and Brand Equity

The company's brand is an intangible asset that is strongly related to the degree of brand awareness, as it refers to the influence that its recognition might have on the perception of the product/service. The brand is a strategic intangible resource that the company has created, developed, and nurtured over a long period of time; it is not just a distinctive sign (Urde, 1999; Balmer and Gray, 2003). Indeed, the brand has the requirements to be qualified as a specific intangible asset because it is the synthesis of a set of resources, skills, investments susceptible to economic evaluation in the long term (Keller and Lehmann, 2006; Melović et al., 2021).

Brand equity is the result of brand awareness, perceived quality, associations with the brand and brand loyalty (Sasmita and Suki, 2015). As a result, brand equity refers to a brand's power to drive purchasing decisions based on recognition, knowledge of the brand, and all associations created with it, rather than the merely real attributes or actual product quality. David Aaker popularized the concept of brand equity in the 1990s. In his book "Managing brand equity" (1991), he proposed a definition of brand equity as "a set of brand assets and liabilities linked to a brand, its name, and symbol, that add to or subtract from the value provided by a product or service to a firm, or to that firm's customers" (pp. 27-28). Therefore, brand equity may add (or detract) value to a firm and its

consumers to the degree that these assets contribute to understanding, processing, and storing huge volumes of information about firms' offerings. At the same time, brand equity influences the consumer's level of security when making a purchase decision (Peñalba-Aguirrezabalaga et al., 2021). Companies with a recognizable brand, and hence a high-level of brand equity, can profit from brand value because customers are willing to pay a premium price for the product/service solely to have that brand. Previous marketing research stated that superior market-based assets, such as brand equity, may enable firms to increase financial returns (Richards et al., 1988; Ailawadi et al., 2003; Keller and Lehmann, 2006; Anees-ur-Rehman et al., 2018). Moreover, Fornell et al. (2006) finds that a firm with customer satisfaction and brand equity above average produces excess returns. To achieve a high-level of brand equity, firms need to invest in marketing strategies. The main marketing literature still differentiates between marketing investments (in accounting terms, to be evaluated in the short-term and tending to be minimized) compared to financial investments (long-term) (Johanson and Mattsson, 1985; Rust et al., 2004; Palmatier et al., 2006). Based on these considerations, KM system affects corporate brand building process and sustain companies for marketing investments (Melović et al., 2021). Generally, internal elements that impact the information sharing culture of the organization's environment produce conditions that ensure a good system of knowledge sharing and management in the firms and to improve marketing investments: typically, these elements are leadership, culture, information technology and infrastructural indicators. Indeed, managing knowledge can also boost the brand's worth in relation to the newly emerging body of knowledge and generate new innovations to build the company's image (Tongsungnoen and Tuamsuk, 2020). According to previous research, knowledge management may be employed as a new marketing approach in operations including brand building and communications. Thus, we state that:

H1: Firms that have invested in marketing strategies and hence having a high-level of brand equity should show significant differences in terms of financial variables compared to firms that have a low-level of brand equity.

Brand equity, credit rating, and financial risk

The firm's sensitivity to future cash flows is the most important feature of risk interest since it influences the firm's capacity to service existing debt and take on and offer new debt (Merton 1974). The credit rating gives an indication of the credit quality of the company. Several researches in this field relate the importance of brand management with credit rating (Larkin, 2013; Hasan and Taylor, 2022). For example, Hasan and Taylor (2022) indicate that brand capital captures key financial and non-financial information, and that credit rating organizations should take brand capital into account when determining a firm's creditworthiness. Brand capital serves as an information channel,

informing capital market participants and customers about businesses' revenues and competitiveness, as well as the quality and kind of innovations associated with that brand. The informational role that brand capital plays with financial stakeholders is aligned with the function of knowledge management approach. By approaching the KM theory, the brand capital allows rating agencies and stakeholders to obtain additional information as a result of the visibility and impact of the brand in the market, allowing investors to make more accurate valuation decisions of the companies (Kim et al., 2013). Thus, we state that:

H2: The credit rating is positively associated with the company's brand equity.

According to brand management shareholders, successful brands provide value not just to customers but also to employees, suppliers, debt holders, and equity investors (Richards et al., 1998; Wang and Sengupta 2016). While it is commonly acknowledged that strong brands are connected with greater product-marketplace and company financial success, the impact on firm risk is less evident. Rego et al. (2011) have provided a first attempt of relation between brand equity and company's risk, by highlighting that marketing efforts have an influence on the firm's financial risk. Moreover, the authors showed that a strong brand equity is connected with lower debtholder and shareholder risk, as well as lower capital expenses. Hence, we propose a research hypothesis about the relationship between brand equity and company's risk through different risk perspectives, i.e., total firm risk, systematic and non-systematic risk. Thus, we state that:

H3: Brand Equity is negatively associated with companies' risk and furthermore negatively is stronger with non-systematic risk than with systematic risk.

RESEARCH DESIGN

Data collection and Sample

A panel data from 2010-2020 of 180 US listed companies all listed on NYSE or NASDAQ is analyzed. Companies are. To examine the relationship between brand management and companies' financial variables, the analysis employees two types of data sources: BrandFinance database for brand equity data and Standard & Poor's COMPUSTAT database for financial data of the firm-level control and for the measurement of risk.

Models and variables

As already stated, the aim of this paper is to investigate the impact of brand equity on business performance and risk through the estimation of corporate brands. For this purpose, BrandFinance

database estimates the brand equity and investments using the royalty survey approach, which includes three factors: Marketing Investment, Stakeholder Equity, and Business Performance (BrandFinance 2020). As mentioned above, the royalty relief technique, which consists of multiple phases (i.e., the application of balance scorecards of the brand; score the brand from 0 to 100; assessment of the process), is estimated by BrandFinance to evaluate the brand level of the firms. Finally, we divide the brand equity index into two categories: high and low compared to the average of the other companies.

With regard to the financial variables, the analysis considered the first measure the total risk of the company, which is calculated as a standard deviation of daily equity returns per year (Schwert, 1989). By following previous literature studies (Rego et al., 2011; Bharadwaj et al., 2011), we split total company risk as systematic and unsystematic risk. Systematic risk is stock price volatility due to events common to all firms in a sector or a whole market. On the other hand, unsystematic risk known as the specific risk of the firm derives from the uncertainty regarding specific events (Rego et al., 2011). First, we calculated all the returns of the equity markets to which the firms are listed. Then, we regressed stock returns with the market ones; the standard error of the regression model is the measurement of unsystematic risk. Finally, we subtracted from the total risk the unsystematic risk to find the measure of systematic risk.

In order to control our analysis models, through COMPUSTAT database we have included several other financial variables (K) such as: Market to book ratio ([Common Shares Outstanding * Annual Price Close] / [Common / Total Ordinary Equity]); ROA (Income before extraordinary items / Total Asset); ROA Variability (standard deviation of the prior five years' ROA); Size (ln of Total Asset); Leverage (ratio of long-term debt + current liabilities and Total Asset); Industry code from COMPUSTAT.

We calculated three types of analysis to address the research questions: the first estimation is based on a means comparison between two independent groups (high level of brand equity vs. low level of brand equity) to assess if there is statistical evidence that the population means differ substantially. For the second analysis, we launched an ordered logit regression to estimate the relationship between brand equity index and debt-holder risk. The logit regression model is shown below.

$$\text{Credit Rating}_{t+1} = \beta_0 + \beta_1 K_{i,t} + \beta_2 \text{Brand equity}_{i,t} + \varepsilon_t$$

Finally, we launched an ordinary least squares (OLS) regression to estimate the relationship between brand equity index and equity-holder risk. The OLS regression model is shown below.

$$\text{Risk}_{t+1} = \beta_0 + \beta_1 K_{i,t} + \beta_2 \text{Brand equity}_{i,t} + \varepsilon_t$$

RESULTS

Table 1 presents our first results. Firstly, we found that firms with a high-level of brand equity are significantly different to the group of firms with low-level of brand equity as with regards to credit rating and other financial variables (Credit Rating t-test= -3.294, p value= 0.05; ROA t-test= -2.540, p value= 0.034; ROA variability t-test= -2.570, p value= 0.035; Leverage t-student= -2.191, p value= 0.043).

Grouping Variables	Brand Equity Number of events	Brand Equity Mean	t-test	Compare Means student t-
Credit Rating	Low (126)	19.747	.002	-3.294**
	Hight (54)	21.948		
ROA	Low (126)	.037	.034	-2.540*
	Hight (54)	.091		
ROA variability	Low (126)	.024	.035	-2.570*
	Hight (54)	.265		
Market to Book ratio	Low (126)	4.617	.440	-.607
	Hight (54)	7.445		
Size	Low (126)	11.702	.263	.354
	Hight (54)	11.468		
Leverage	Low (126)	.186	.043	-2.191**
	Hight (54)	.281		

Table 1. *Compare Means analysis*

Furthermore, we found a significant positive relationship between brand equity and the credit rating. The brand equity coefficient is 0.130 and significant at the 1% level. In other words, firms with a high-level of brand equity have a significant and positive credit rating than other firms. This result (Table 2) supports H2.

Variables	Financial Variables Only	Financial Variables + Brand equity Variable
ROA	33.377***	30.426***
ROA variability	31.427	70.853**
Market to Book ratio	.317***	.349***
Size	2.236***	2.495***
Leverage	-10.852***	-12.531***
Brand equity		.130***
Industry dummy	YES	YES
χ^2	59.117	69.256
-2 log-likelihood	234.894	224.775
Adjusted pseudo R^2	72.5%	77.9%

p value .000 .000

Notes: Dependent Variable = Credit Rating.

Table 2. *Debt-holder-risk Ordered Logit Model.*

Finally, table 3 shows the results related to brand equity and firm risk. For each type of risk (i.e., total risk, systematic risk, and unsystematic risk), a linear regression OLS was estimated in order to evaluate H3.

	Total Risk		Systematic Risk		Unsystematic Risk	
	Financial Variables Only	Financial Variable + Brand equity	Financial Variables Only	Financial Variable + Brand equity	Financial Variables Only	Financial Variable + Brand equity Variable
(Constant)	.039**	.045***	.005	.004	.034*	.040**
ROA	-.026	-.017	.020**	.019**	-.046	-.035
Market to Book ratio	.000	.000	-.007	-.009	.000	-.050
Size	-.001	-.001	.003	-.008	-.001	-.001
Leverage	.013	.011	-.001	-.001	.014	.012
Brand equity		-.022*		.003		-.025*
Industry dummy	YES	YES	YES	YES	YES	YES
Adjusted R²	86.9%	87.9%	29.5%	28.5%	85.7%	87%

Table 3. Shareholder Risk Regression.

Results support H3 since the brand equity parameter is negative and significant both with total risk and unsystematic risk as dependent variable (= -0.022, p value=0.09; = -0.025, p value=0.09, respectively). Furthermore, Brand equity is not significant when assessing systematic risk, by supporting the research hypothesis.

DISCUSSION AND IMPLICATIONS

This article investigates the relationship between brand equity and firm risk measures. The findings mainly suggest that firms with a high-level of brand equity have a lower total and unsystematic firm-risk than other firms, supporting the results of previous studies (Rego et al., 2011; Bharadwaj et al., 2011). Furthermore, we find no relation between brand equity and systemic risk. Thus, companies with a high-level of brand equity have lower volatility than equity returns during market downturns, implying that investor's view firms with a high-level of brand equity as a safer investment under poor

economic situations. According to our findings, brand management might be employed as an intangible marketing resource in a variety of marketing scenarios to improve corporate performance (Kozlenkova et al., 2014).

It is interesting to notice that some theoretical implications are emerged. In the current economy of technologies, intangible assets are still allowing to pursue a competitive advantage. The paper adopts the KM view to emphasize this aspect and the priority of know-how, knowledge, skills and so on corporate performance. As posit by Richard et al. (1998), brand KM shift the 'brand-led organization' from tangible to intangible assets (e.g., knowledge). In this sense, customer KM is emerged to moving from data mining which processes customer relationship management (Dennis et al., 2001). More recently, Peñalba-Aguirrezabalaga et al. (2021) retain that KM has a crucial impact on companies' performance and improve customers' experience. This mostly occurs in corporate environment where knowledge is created, gathered, classified, shared, used, and preserved (O'Dell & Grayson, 1998). Supporting previous research (Campos and Sánchez, 2003; Rodriguez-Castellanos et al., 2011; Del Giudice and Della Peruta, 2016), the present research shed light on the role of KM as a critical source of business competitiveness. Tongsungnoen and Tuamsuk (2020) affirm that managing knowledge can enhance brand value and generate new innovations; Richard et al. (1998) was questioning why marketing activities were not able to advance brand knowledge. Through the brand equity is possible to make a proper evaluation of a company.

In this perspective, new managerial contributions are made. Managers need to take more in consideration intangible assets even in the brand equity process. Data are relevant but not sufficient to guarantee a company's success. This has induced the shift from data mining and so customer relationship management to customers KM. This has shown the pervasive presence of knowledge in developing new strategies and getting competitive advantage. Yet, managers should exploit those assets derived from customers and engage more with them to improve brand equity.

FINAL REMARKS

The paper offers new insights on brand equity and knowledge management. Although that, it could be extended by considering the features of intellectual capital and so enlarge intangible asset view. Yet, the analysis is limited to US listed companies but further research can include European companies or small to medium enterprises and highlight the differences and similarities among them. Again, other research can examine companies operating in emerging markets. Understanding more market differences can allow to know more customers and so improve customer KM. Basically, our research offers good basis to develop new discussions, enhancing the KM literature and community.

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THE BRITANNIC AS A VISITABLE SHIPWRECK

Maniatis, Antonios¹; Papadimitriou, Kimon²

¹Captains' School, Merchant Navy Academy of Macedonia, Nea Mihaniona, Thessaloniki, Greece

²School of Rural & Surveying Engineering, Faculty of Engineering, Aristotle University of Thessaloniki, Thessaloniki, Greece

ABSTRACT

The BRITANNIC, generally known as the sister boat of the TITANIC, was built as an ocean liner, but she was refitted as a hospital ship during World War I and sank in November 1916, reportedly after striking a mine. In virtue of law No. 3409 of 2005, scuba diving for recreational purposes has been liberalized in the Hellenic legal order. In Greece, the time which was required in practice for issuing a permit for the underwater remark of a wreck was quite big and might reach the time of 8 months, at least till recently. A joint ministerial decision was issued in March 2022, in the matter of 91 underwater wrecks, including the BRITANNIC and the comparable case of BURDIGALA. A documentation process is required for each of those monuments and then the visit will be permitted on certain conditions, such as notification of the visit at least one day in advance. The process was completed 3 months later for 11 wrecks, such as the BRITANNIC and the BURDIGALA. So, a lot of wrecks are expected to become visitable but interesting cases of shipwrecks are excluded. Furthermore, the joint ministerial decision does not fully comply with the principle of transparency. Last but not least, Greece should acquire an archaeological contiguous zone, which would be beneficial inter alia for the French shipwreck "FLORÉAL".

Keywords: BRITANNIC; BURDIGALA; FLORÉAL; Law of the Sea; MARQUETTE; shipwrecks; scuba-diving; TAORMINA; TITANIC; underwater cultural heritage

INTRODUCTION: SEABED MYSTERIES, EXEMPLIFIED BY THE TAORMINA

Shipwrecks are in fashion, especially in Greece. In the first morning hours of 11th September 1891 the Italian merchant navy vessel "TAORMINA", carrying merchandises and passengers from Constantinople to Piraeus, moved west from the island "Patroklos". Not only did she sink there but she was also condemned to a very protracted oblivion. It took 130 years for the shipwreck to be identified and her tragic history to come to light (Newsroom, 2022). However, the Greek seabed still includes other similar mysteries.

The Greek State recently attempted to adopt a list of 91 wrecks of ships and aircrafts to visit, in various maritime zones, mainly in those of its sovereignty (Papadimitriou, 2021) . The attractions on the matter are held to be just the first group of underwater cultural goods that would be open to the public, according to the Ephorate of Underwater Antiquities of the Ministry of Culture and Sports, which has chosen them.

Joint ministerial decision No. 92225 of 3 March 2022, of the ministers of National Defense, Culture and Sports as well as Shipping and Insular Policy, which was published in the Government Gazette (1273/B) on 18 March, deals with the definition of the diving conditions, the mode of notification and the other obligations of diving services providers and of visitors, as far as recreational diving is concerned, in the case of this first group of wrecks, which have been listed as monuments.

On the one hand, the “opening” of those wrecks to the recreational diving community without any doubt supports the development of cultural tourism in Greece. On the other hand, this list might be considered also as a pilot (it is referred as a “first list”) for the investigation of the managerial strategies and policies regarding the protection and the accessibility of Underwater Cultural Heritage (UCH). Our study aims to identify some aspects of this “opening”, by using the example of the BRITANNIC, as an emblematic case (in terms of depth and size is the deepest and biggest one of this list, while in terms of fame is probably the most recognized one). Other cases of historical wrecks are also mentioned in order to highlight: a) the significance of twentieth century as an era of the emergence of underwater archaeology; b) the success of the initiative for the 91 visitable wrecks; and c) the opportunity of making other shipwrecks open to visitors.

This manuscript is presenting for first time some preliminary outcomes from the authors’ study on the list of 91 wrecks, willing to identify possible implications of such “openings” but also to contribute to future decision making for maritime spatial planning, related to the management of the UCH.

At first, it comprises a general overview of the BRITANNIC, as a ship and a wreck.

Then, it analyzes the question of liberalization of shipwrecks in Greece, with emphasis on the legal framework.

Furthermore, it includes a unit related to the implications and the contribution to the wider research on the matter.

THE BRITANNIC

The BRITANNIC, in full “His Majesty’s Hospital Ship BRITANNIC” or abbreviated “HMHS BRITANNIC”, is generally known as the sister boat of the TITANIC, in the sense that she was built by the same company. She is also known as the sister of the popular boat “OLYMPIC”, as she was the third and final boat of the White Star Line’s Olympic class of steamships.

She was designed to be the safest of those three ships, as constructors wanted to improve their art on the basis of the loss of the TITANIC, which is the most famous shipwreck in history. For that reason, design changes were made during the construction process. So, the BRITANNIC was endowed with the reputation of unsinkable ship, against the tragic precedent of the TITANIC, which herself had been considered unsinkable, due to compartment doors that could be closed if the bow was breached.

She was intended to operate as a transatlantic passenger liner, but she was never put into service due to the start of World War I and she was refitted as a hospital ship. She was requisitioned as a hospital boat of Royal Navy and in 1915 and 1916 she served between the United Kingdom and the Dardanelles.

On 21st November 1916 she sank, reportedly after striking a mine, in just 55 minutes and she is located about 3 nautical miles northwest of Korissia, namely the principal port of the island of Kea, about 6.75 nautical miles northwest of the official position referred by the Admiralty in 1947. Despite the speed of the sinking, only 30 people were killed whilst more than 1,030 were saved. The famous French ocean explorer Jacques-Yves Cousteau discovered the wreckage in 1975, at a depth of 119 meters.

In 2018, leading up to the November 21 centenary of the sinking of one of the five biggest shipwrecks in history, applications for diving permits had soared and the Greek government wanted the 49,000-tonne wreck, the largest in the world, to become the centerpiece of a series of marine museums (TravelNews, 2018). It is also notable that the time being required in practice for issuing a permit for the underwater remark of a wreck in Greece, as it is the case of the BRITANNIC, was quite long and might reach the time of 8 months, at least till 2016 (Tripontikas, 2016).

Besides, another important shipwreck lies in the Greek territorial sea, in the wider region of Kea, consisting in BURDIGALA. The BURDIGALA’s common historical destiny with the BRITANNIC makes her one of the last witnesses to the end of the historical ocean liners lost in the eastern Mediterranean Sea during World War I (Galon, 2019).

THE LIBERALIZATION OF THE VISITS OF SHIPWRECKS IN GREECE

A general overview

In the Greek legal order, the wrecks of ships and aircrafts of over fifty (50) years from the date of sinking have been declared as monuments, according to a ministerial decision which was published in the Newspaper of the Government on 19.11.2003 (1701/B). Furthermore, in virtue of law No. 3409 of 2005, scuba diving for recreational purposes has been liberalized in Greece. In other words, the rule consists in freedom to exercise this sport activity. The prohibition is an exception, which is anyway mitigated by the provision for the potential creation of underwater parks (Maniatis, 2022a). The reason to dodge this liberalization consisted in the necessity to protect cultural goods against criminal law illegal acts. The knowledge of the past, being a scope of archaeology, frequently is possible uniquely through the study of remaining material goods.

It is notable that underwater monuments run the risk of looting, in spite of the fact that the difficulty of getting closer to them is bigger than the relative to terrestrial cultural goods. However, the solution does not consist in widespread prohibitionism but in the introduction of suitable rules and the activation of a deterrent State mechanism. This approach results *inter alia* from the principle of proportionality, whose initial concept was investigated and elaborated by two top ancient Greek intellectuals coming from the wider region of the Aegean Sea. It is about Pythagoras from Samos, the Father of Mathematics, and Thales from Miletus, namely from a city in Greek Ionia. Analogy was cultivated in its initial basic form of a single fraction (a/b) by those philosophers and so the Aegean Sea should not be held merely as the tomb of the BRITANNIC and other famous shipwrecks but also the pioneer cradle of the principle of proportionality.

It is to signalize that the museum of underwater antiquities of Piraeus had to cope with an institutional adventure of many years and so it has not been put into operation, yet. Just the opposite, Turkey is endowed with a homologous museum, headquartered at Bodrum. In that city, whose ancient origin is the Greek city of Halicarnassus, the homeland of Herodotus, there is a specialized museum which constitutes a mainstreaming attraction for tourists. Similar remarks are valid in the matter of diving parks, with the unique exception of the park of Alonissos. The inauguration of the underwater museum in the islet Peristera of Alonissos, in August 2020, and the international promotion of that event are considered as a sample of the intense international interest, which has already been developed for diving tourism in Hellenic seas.

Last but not least, the “executive State” of Greece is endowed with the “Code on legislation on the protection of antiquities and of the cultural heritage in general”, which was ratified by law No. 4858/2021. It has been proposed to call this pioneer legislative text “Cultural Heritage Code” (Maniatis, 2022b).

The Joint Ministerial Decision on the 91 Visitable Wrecks

The 2022 joint ministerial decision is based on the unanimous opinion of the Central Council of Modern Monuments of the Ministry of Culture and Sports, No. 11 of 19 March 2021. It clarifies that no fees are caused for the State budget whilst an eventual revenue is produced in favor of the Organization of Management and Development of Cultural Assets, which comes from the imposition of charges, as long as the documentation material on those visitable monuments is used by the provider of diving services either directly or indirectly for a commercial objective. It permits recreational diving in the 91 wrecks, on certain conditions that are defined in a detailed way.

First of all, the providers of diving services and the private individuals that want to make a free or autonomous diving or snorkeling are obliged to inform the Ephorate of Underwater Antiquities, at least one day in advance, about the exact date, the hour and the duration of diving, the number of divers, the elements of the floating means of approach and the way of anchorage of that means.

Each monument must be documented through the production of static images. The Ministry of Culture and Sports is exclusively competent for the documentation, but this process may be externalized to providers who would like to enact that role. In that case, entrepreneurs have to apply for this mission and are likely to be granted a written permit by the Ministry, whose collaboration is explicitly previewed. As long as the documentation material is used by the provider for a commercial purpose, a specific previous authorization is required.

Documentation constitutes a key issue because it has been institutionalized as a prerequisite for any diving attempt. In other words, diving is permitted only after the completion of the documentation process. The Ephorate of Underwater Antiquities has to issue a relevant decision, which should be uploaded on the website of the Ministry of Culture and Sports and on the website of this service and is sent to the Directorate of Port Police and to the General Navy Staff. Besides, as for diving at a wreck whose ownership has been acquired by the legal person under public law "Shareholding Navy's Fund" in virtue of legislative decree No. 2648 of 1953, a decision of the Ephorate of Underwater Antiquities is required, on the basis of a previous positive opinion of the Shareholding Navy's Fund.

Last but not least, any research to discover mobile objects on the site of the wreck or in the wider region, which are likely to be associated to the wreck, is prohibited.

In early June 2022, media announced that 11 historical monuments, including the BRITANNIC and the BURDIGALA, became visitable. So, the State managed to activate partly the new institutional framework very soon, at the beginning of the tourist season, let alone for mainstreaming shipwrecks.

Attributes of the 91 Visitable Wrecks

In order to perform a preliminary investigation, based on the available information, the text content of the 2022 joint ministerial decision was transformed into a data table (Table 1) with five fields

providing basic attributes of each wreck: a) the “Nationality”, b) the vessel Type (“Type”), c) the Propulsion system (“Propulsion”) and d) the “Vessel Name” (one more field was included for the List serial Number – “List Num”). Some editing of the field records, for homogenization purposes, was necessary for allowing appropriate data management (shorting and basic statistic operations).

Table 1. Basic attributes of the 91 listed wrecks (Vessel Names not translated)

List Num.	Nationality	Type	Propulsion	Vessel Name
1	Greek	passenger ship	steam ship	ΠΑΤΡΙΣ
2	British	cable ship		RETRIEVER
3	British	cargo ship	steam ship	CLAN CUMMING
4	Italian	minesweeper		RD7
5	Italian	cargo ship	steam ship	MONROSA
6	Greek	cargo ship	steam ship	ΠΕΤΑΛΛΟΙ
7	Italian	torpedo boat		ALDEBARAN
8	German	landing craft		LOKFAHRE
9	Italian	destroyer		CURTATONE
10	Greek	destroyer		ΥΔΡΑ
11	Greek		steam ship	ΡΟΖΑ ΒΛΑΣΗ
12	Greek	rescue boat		ΜΙΜΗΣ
13	Greek			ΑΓΙΟΣ ΜΑΡΚΟΣ
14	Italian	torpedo boat		ALTAIR
15	Italian	airplane		Savoia-Marchetti (SM) 79 «Sparviero»
16	German	submarine		U-133
17		ocean-liner		Βρετανικός (HMHS Britannic)
18		ocean-liner	steam ship	Burdigala
19	Greek		steam ship	ΠΑΤΡΙΣ
20	Greek	destroyer		ΒΑΣΙΛΙΣΣΑ ΟΛΓΑ
21	Greek	passenger ship		ΠΑΝΟΡΜΙΤΗΣ
22		cargo ship		
23	American	landing craft		
24	German	landing craft		type H
25	Greek	cargo ship	steam ship	ΑΡΤΕΜΙΣ ΠΙΤΑ
26	Spanish	cargo ship	steam ship	SAN EDUARDO
27	Italian	cargo ship	steam ship	CITTA DI TRIPOLI
28	French	passenger ship		THEOPHILE GAUTIER
29	Greek	cargo ship	steam ship	ΣΙΦΝΟΣ
30	Belgian	cargo ship		PORTUGAL
31		airplane		Bristol Beaufighter
32	British	airplane		Vickers Wellington MkXIII
33		airplane		Bristol Beaufighter
34		airplane		Junkers 52
35		airplane		Junkers 52
36		airplane		Arado Ar 196
37		airplane		Heinkel 111
38	Italian	cargo ship		
39	German	airplane		Arado Ar 196
40				unknown
41	Bulgarian	cargo ship	steam ship	BALKAN
42	British	passenger ship	steam ship	PRINCESS ALBERTA
43	Greek	passenger ship	steam ship	ΑΛΕΞΑΝΔΡΟΥΠΟΛΙΣ

44		airplane		Martin Baltimore
45	Greek	cargo ship	steam ship	ΚΥΡΙΑΚΗ
46		airplane		Bristol Beaufighter
47		airplane		Arado Ar 196
48	Australian	landing craft		A6 ή A20
49	Italian	supply vessel		PIERRE LUIGI
50	German	airplane		(fighter)
51			steam ship	MINNEWASKA,
52	British		steam ship	MARQUETTE
53	Greek			ΜΥΤΙΑΗΝΗ
54		passenger ship		ERMINE
55	Greek		steam ship - sailing	ΑΛΕΞΑΝΔΡΟΣ
56	Turkish			
57	British	minesweeper		(almost certain) BY GEORGE
58	German	landing craft		Kriegsmarine F898
59	German	airplane		Junkers 52
60	German	airplane		Junkers 88 ή Dornier 17
61	British	ocean-liner	steam ship	NORSEMAN
62	under requisition	cargo ship		HELENA
63	Italian	gunboat		PELLEGRINO MATTEUCCI
64		submarine		Περσέας (HMS Perseus – N36)
65		airplane		Junkers 88
66	Greek			ΣΑΡΑ
67			steam ship	ARDENA
68		airplane		Junkers 88
69				CARINTHIA V
70	Greek	cargo ship	steam ship	BIBH
71	Greek	cargo ship	steam ship	ΔΑΡΜΑΣ
72	British	torpedo boat		CHAMOIS
73	German	cargo ship	steam ship	MARGUERITE
74	Dutch	cargo ship	steam ship	MARS
75	Greek	cargo ship	steam ship	ΧΡΙΣΤΟΦΟΡΟΣ
76	Greek	minesweeper		ΝΕΣΤΟΣ
77	British	minesweeper		BYMS 2077
78	Norwegian	cargo ship	steam ship	SVEN JARL
79	Greek		motor ship	ΚΑΣΣΑΝΔΡΑ
80	French		steam ship	PARANA
81	British		steam ship	HELMSTEDT
82	Greek		steam ship	ΚΛΕΙΩ
83		concrete ship		PIONEER I
84	Italian	cargo ship	steam ship	DELFIN
85		concrete ship	steam ship	CRETELAND
86	Greek		steam ship	ΑΘΑΝΑΣΙΟΣ
87		cargo ship		unknown
88	British	minesweeper		REGULUS (J327)
89		airplane		Junkers 88
90	German		steam ship	VOLOS
91		supply vessel		ΧΡΗΣΤΟΣ

IMPLICATIONS AND CONTRIBUTION OF THE STUDY

Some facts resulting after a primary assessment of the data derived from the descriptions of the 91 wrecks, as provided by the joint ministerial decision, are the following:

a. Nationality

Regarding the nationality of the 91 wrecks, the decision refers to: 1 American, 1 Australian, 1 Belgian, 1 Bulgarian, 11 British, 2 French, 10 German, 15 Greek, 1 Spanish, 11 Italian, 1 Norwegian, 1 Dutch, 1 Turkish and 1 under requisition. For the remaining 31 monuments there is no direct mention for their flag, although the name of 8 ships denotes a Greek nationality (“ΑΓΙΟΣ ΜΑΡΚΟΣ”, “ΠΑΤΡΙΣ”, “ΒΑΣΙΛΙΣΣΑ ΟΛΓΑ”, “ΠΑΝΟΡΜΙΤΗΣ”, “ΜΥΤΙΛΗΝΗ”, “ΑΛΕΞΑΝΔΡΟΣ”, “ΣΑΡΑ” and “ΚΑΣΣΑΝΔΡΑ”) and for several airplanes could be assigned one. A question arises for the definition of the nationality for any listed wreck.

b. Type

For 60 wrecks there are certain descriptions for their type (or use), namely airplane (6), destroyer (3), landing craft (5), passenger ship (6), gunboat (1), cable ship (1), minesweeper (5), rescue boat (1), supply vessel (2), torpedo boat (3), ocean-liner (3), submarine (2), cargo ship (20). For other 2 wrecks (“PIONER I” and “CRETELAND”) there is a description on their construction material (concrete), which refers to a standardized type of cargo ship. Although it is not mentioned, 12 more wrecks can be distinguished as airplanes. Another question regarding the type of each wreck should also be answered.

c. Propulsion system

From 34 wrecks, for which the propulsion is provided, the majority (33) are steamships and another one a motorship (there is a reference to a diesel engine). There is a description of the transmission of power (wheel) for one steamship (“ΠΑΤΡΙΣ”) and of the auxiliary/supplementary system (sails) for another one. The propulsion system is a key feature for any vessel whilst it is not applicable for airplanes. Thus, this information should also be available for each shipwreck included in the list.

d. Vessel Name

Excluding the 18 wrecks that refer to airplanes (not common to assign names to them), from the remaining 73 shipwrecks, the names are provided for the 66 (for one of them, with a note in parentheses that it is “almost certainly” the one displayed). For 5 shipwrecks the name is not provided (for 1 of them the vessel type “H” is assigned instead), while another 2 shipwrecks were included as “unknown”. This should be a focus point for research, in order to allow the identification of each wreck and eliminate any ambiguities regarding the monumental character of the listed assets. Moreover, the answer to this last question would facilitate the attribution for the above-mentioned missing details (for the Nationality, the vessel Type and the Propulsion system).

e. Worth mentioning issues

The wrecks date from 1868 to 1970 and their majority originate from World War II. Their depth is quite varied, from 5 to 130 meters, hence snorkeling instead of diving with autonomous breathing apparatus is possible in some cases. The available material for documentation is not always sufficient, mainly due to big depth or to the conditions of blurring of the sea. When the list was fixed, in March 2021, the aforementioned shipwreck of TAORMINA had not been identified and anyway it was not included. The “recognition”, a term that reminds of the terminology of ancient Greek rhapsodies, was delayed by one year. In other words, this interesting development became known on 25 March 2022 whilst two other wrecks, of the Greek boat “PATRIS” and of the Italian warship “ALTAIR”, which are located near the islet of Patroklos, have been listed.

It is generally believed that no monuments being located beyond the zones of national sovereignty, such as the continental shelf and the Exclusive Economic Zone (EEZ) of Greece, have been incorporated in that list. The Ephorate of Underwater Antiquities considers itself incompetent for those monuments, at least in the sense that the Greek State has no obligation to cope with them, due to their location. The unique case of official active intervention of the Ephorate in this space was in 2012. Then, archaeologists of this service interfered in the Ionian by accomplishing a mission of bottom research (not of archaeological excavation) in order to set up the Poseidon national gas pipeline. In the framework of that initiative for the Greece-Italy pipeline, which was completed by a similar intervention of the Italian State in its own continental shelf, no shipwrecks were located in the Hellenic continental shelf. However, this investigation was not entirely fruitless, as some shipwrecks were located in the territorial sea, near Corfu. Anyway, investigations in a big depth are very costly. It results those important shipwrecks of international interest, such as the submarine of the French Navy “FLORÉAL” being located in the potential archaeological (contiguous) zone of Greece, are excluded. Nevertheless, it is not quite clear that Greece wanted to adopt a list of shipwrecks being located uniquely in the seabed of its sovereignty. For instance, the catalogue includes the British troopship “MARQUETTE” which sank on 23 October 1915 as she was torpedoed 36 miles south of Salonica, in the Aegean Sea. Currently, 2 shipwrecks are located outside the Greek space of sovereignty, namely in the continental shelf, and so the Hellenic polity should inaugurate a new culture on the matter.

CONCLUSION: A NEW ERA FOR CULTURAL TOURISM IN GREECE

The present analysis has ended up to the following findings:

a. The twentieth century as the era of emergence of underwater archaeology

The twentieth century was the era of a big number of rights in terms of public law, such as the second-generation fundamental rights to tourism and to sports, although it is not quite clear whether

the right to sports belongs to the second generation or to the third one (Maniatis, 2017). In a parallel way, humanity in that era began to acquire both technology and knowhow to take care about underwater cultural heritage, which is intrinsically linked with cultural tourism. This special form of tourism is addressed to a wide public, endowed with both high level and high income, as far as underwater and land cultural assets are concerned. It results that culture, particularly cultural heritage, and tourism constitute a business whole.

b. The success of the initiative on 91 visitable wrecks

The Ministry of Culture and Sports has achieved an important goal by establishing the list of 91 visitable wrecks, in terms of promotion of cultural heritage and also of sustainable development of local societies, particularly of insular regions that would deserve a special care by the State. The creation of this catalogue could be considered fair as a general rule, given that it includes monuments of almost all the coastal Regions of the Greek State. Furthermore, it is to point out that the activation of this list is expected to minimize the time needed to realize a visit, against the negative precedent of up to 8 months for a permit. Nevertheless, the whole experiment is not fully exempted from criticism, for instance in temporal terms. Indeed, Greece wasted a year to issue the joint ministerial decision on the matter, after the relevant opinion of the Central Council of Modern Monuments, which itself is not an executable administrative act. Furthermore, the list is quite vague in some points, like the location of the wrecks. No information is available about the maritime zone of each wreck, upon the Law of the Sea and its ownership (especially for those cases that a previous positive opinion from the Shareholding Navy's Fund is required). It results an important transgression of the modern principle of transparency, which has gained territory in the Greek Constitution the last decades but it is not exempted from exceptions in the Environmental law, such as directive 2003/4/EC.

c. Opportunity of making other shipwrecks open to visitors

It is highly recommended to make other shipwrecks open to visitors, soon. It is quite indicative of the intense dynamic of the mission of underwater archaeology that important new developments occur the last months, in Greece as well as in a wider context. It goes without saying that it would be interesting to highlight the case of the newly identified old wreck, of the Italian boat "TAORMINA", which is near the land of the metropolitan center of the Greek capital. It is also to put the stress on the naval battle of Navarino, which occurred in October 1827 and implicated no loss of the European alliance fleet against the Ottoman – Egyptian one. Just the fact that no shipwreck was produced among the British, French and Russian warships constitutes an impressive aspect of this historical fact of major importance for the Greek nation. In other words, even the inexistence of a wreck may be held as an important attraction for tourists, who generally are fascinated by stories on unsinkable boats.

Anyway, it would be interesting to highlight a shipwreck of this battle, let alone the fact that only two boats are incorporated in the list on the matter, from the entire Region of Peloponnese.

Besides, it is a matter of major importance to protect and highlight historical monuments which are located either in the continental shelf or in the EEZ of Greece, as it is the case inter alia of the "MARQUETTE" and the French submarine "FLORÉAL". Furthermore, it is time for the Greek State to introduce the archaeological (contiguous) zone up to the 24th nautical mile from the baselines, which would be beneficial for the case of "FLORÉAL".

The BRITANNIC is much more than an old ship which sank a longtime ago, she constitutes an authentic icon of underwater cultural heritage and is expected to be upgraded as a visitable monument.

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ANTICORRUPTION WITH EMPHASIS ON SPORTS LAW

Maniatis, Antonios

Captain's School of the Merchant Navy Academy of Macedonia, Thessaloniki, Greece, Department on Communications and Digital Media of the University of West Macedonia, Kastoria, Greece

ABSTRACT

Administrative corruption consists in violation of the principle of legality by the personal carrier of the administrative organ involved, to promote a self-serving purpose as for the exercise of the assigned public power. Anticorruption is the antidote, which combines traditional institutions with new ones, such as the principle of transparency, which gained its explicit recognition in the Greek constitution through the 2001 amendment, and independent administrative authorities, exemplified by the National Transparency Authority as a part of the recently established "Executive State" of Greece. The last years, transparency has been evolved into an intersectoral principle, in form of a general custom of international law as well as at constitutional level. Besides, corruption in the private sector is exemplified by corruption in sports domain. A mainstreaming tool of soft law on the matter consists in the United Nations Convention against Corruption resolution 8/4 on safeguarding sport from corruption, which was adopted in 2017 and takes an approach based inter alia on Olympism, whose status is comparable to the status of the Constitution in a national legal order. Nudity of sportsmen and their trainers in ancient Olympic Games is a symbol of transparency in sport whilst the fact that nude athletes in ancient Greece were limited to anoint their bodies with oil during gymnastics offers an argument against doping practices. Anticorruption should make use mainly of the prevention method, which is related to the educational system and the pedagogical function of law, especially of the formal Constitution as the highest source of law.

Keywords: anticorruption (/anti-corruption); corruption; Executive State; independent administrative authorities; Olympism; sports law; transparency

INTRODUCTION

A neologism has emerged in the framework of the rule of law. It is about "anticorruption" (or "anti-corruption"), which comprises activities opposing or inhibiting corruption. Corruption is not a monolithic concept, but it may be classified in many categories, such as public corruption and private one.

The central Research Question (RQ) is the following:

Anticorruption should be based on mainstreaming policies of prevention.

Initially, the research deals with the classical concept of corruption and goes on with the reference to some forms of this phenomenon.

Furthermore, it takes a wide approach to the question of transparency in the public sphere and focuses on some anticorruption institutions, such as the new organ in the Greek legal order.

Then, it makes an opening towards the phenomenon of corruption in the private sector, especially in sport, which constitutes the main thematic field of the current study.

AN APPROACH TO CORRUPTION IN THE PUBLIC SECTOR

The concept of corruption in the public sector

Scholars have the tendency to declare quite emphatically that defining corruption is not an easy matter. It is about a difficult mission, let alone the fact that this investigation is quite new and gives the impression that is rather still in process. Anyway, it is possible to discern two theoretical approaches. On the one hand, corruption is held as the set of crimes consisting in bribery. However, severe criticism has been raised against that approach, because corruption may not coincide with financing public servants (Lazos, 2005). It is also added that corruption is not necessarily limited to a momentary illegal act, such as bribery (Lazos, 2005). It may take the form of a social relation or even situation, endowed with a structure and a continuity.

It is interesting that the doctrine combines the corruption with an eventual weakness of the corruptor. For instance, a big multinational company wants to invest in a "developing" country of the Third World but it realizes that another competitor has already created a web of interweaving with that State and some private factors. To achieve its goal, it proceeds to a big bribery of powerful persons whilst its competitor has an interest to get rid of "bribo-centric" corruption, not of corruption in general. It is to pay special attention to the fact that governments of the state members of the Organization for Economic Co-operation and Development (OECD) tend mainly to limit down illegal financing, namely not all forms of corruption. This should be held coincidental, in the sense that there is no policy to promote the interests of the companies headquartered in a member state of this

international organization, which are at a disadvantage vis-à-vis the local companies of the rest world, in the framework of a corrupt system (Lazos, 2005).

The main binding tool of international law on corruption is the 2003 U.N. Convention against Corruption, known as UNCAC. According to article 19, entitled "Abuse of functions", *"Each State Party shall consider adopting such legislative and other measures as may be necessary to establish as a criminal offence, when committed intentionally, the abuse of functions or position, that is, the performance of or a failure to perform an act, in violation of laws, by a public official in the discharge of his or her functions, for the purpose of obtaining an undue advantage for himself or herself or for another person or entity"*.

On account of this precedent, according to one of the definitions formulated by the doctrine, an act of corruption committed by an administrative organ is defined as violation of the principle of legality by the personal carrier of that administrative organ, to promote a self-serving purpose as for the exercise of the assigned public power (Raikos, 2006). As for the self-serving purpose, it is about the corrupt person's intention to acquire a private benefit, of either material or moral nature, as opposed to the concept of the public or general interest (Raikos, 2006). It is to clarify that the notion "profit" means economic advantage whilst the comparable notion "gain" has a wider content (Lazos, 2005). This subjective element of the definition exists in both conceptual approaches, namely the "bribo-centric" one and the relevant to the "abuse of public power". (Raikos, 2006). Without this element, it is impossible to talk about corruption, even if an illegal act has been committed by a competent administrative organ.

Typology of corruption in the public sector

There are various forms of corruption, on the basis of separate criteria, such as the persons involved, the scope, the extension etc. For instance, there are inter alia the following distinctions (Raikos, 2006):

a. Active and / or passive corruption

This mainstreaming division is exemplified by the classical legislative scheme of "active bribery" and "passive bribery". It is indicative of the interest of the legislator to enhance its normative arsenal on the matter that the second crime in the current Greek Penal Code, adopted in 2019, has been called for the first time with a specific, single-word name ("δωροληψία").

b. *Grand and petty corruption*

The criterion of this distinction consists in the form and the size of the “gifts”. The form of grand corruption is exemplified by acts of politicians or high-ranking executives of the State vis-à-vis big companies, to achieve illegal profits or other advantages.

c. *Corruption in the public sector and in the private sector*

It is about a traditional distinction of corruption, which may be located in the public sector, exemplified by tax services, or in the private sector, typically exemplified by the sport domain, in which the stakes are often high, either in economic terms or in other ones.

d. *White, grey and black corruption*

“White corruption” is called a corrupt behavior which is socially codified with tolerance. Besides, the grey corruption is approached with some shame, as a form of dishonesty. Finally, on the opposite side of the first form, there is the black corruption, which is considered as a serious violation of moral values and legal rules.

AN APPROACH TO ANTICORRUPTION

The question of transparency in the public sphere

To analyze anticorruption, it is intrinsically necessary to focus on the phenomenon of transparency. Criminology suggests that to confront criminality committed in an urban context, streets be illuminated at night. This classical suggestion highlights the value of prevention against confrontation of the crime already committed and it could be also considered as the prelude of transparency in the public sphere, much earlier than the emergence of this principle in administrative law. Indeed, transparency is a relatively new trend within public administration, which has been traditionally endowed with the advantage of close procedures, at legal level, far away from political control.

Besides, it is unfriendly to authoritarian regimes. For instance, communication via websites of social networking had a particular significance in the case of political movements in the Middle East and in North Africa, where phenomena of State surveillance were noticed (Mitrou et al., 2013). Governmental factors acquired illegally an access to websites of their opponents in Facebook, erased the social profile of those persons and through malicious software gathered information on the mode of organization of their groups as well as personal information related to the rest members of those groups. In January 2011, as

for the uprisings in North Africa, which could be held as the emblematic beginning of the second, current phase of the period of neo-constitutionalism in Africa, access to Twitter and afterwards to Facebook was prohibited.

Transparency has recently gained territory to such a pitch that it has been incorporated explicitly in various formal Constitutions, mainly through the adoption of a disposition of an article in the framework of an amendment. This is the case of the Greek Constitution, which acquired par. 9 in article 14, in 2001. The entire paragraph has an original content, aiming at blocking the interweaving of interests of media owners and of entrepreneurs who are contracting parties of a public contract, whose scope consists in works, supplies or services. More precisely, par. 9b cites that *“A law previews the measures and the restrictions that are necessary to fully ensure transparency and pluralism in information”*. Par. 9, whose content was inspired inter alia by the case of emergence of a media tycoon, Mr. Silvio Berlusconi, as a political leader in Italy, constitutes the most unsuccessful point of the Greek Constitution. It implicated – through executive laws which were adopted later – disproportional restrictions which were judged as opposite to the European Union law. The Greek State deconstructed those restrictions without abolishing the problematic dispositions of par. 9, in spite of the fact that this step could have been made through an amendment, such as the one which was completed in November 2019.

It is also notable that in par. 5 (former par. 6) of article 102, through the 2001 amendment, a reference to transparency was added, as for the management of resources for the organizations of local self-government. A similar progress has been noticed as for article 29 par. 2, which previewed before that amendment that a law may define the publicity of the electoral fees of political parties and of candidates for the office of deputy whilst the current disposition imposes the legal definition of the guarantees of transparency of the electoral and other relevant fees.

Finally, article 103 on the status of administrative organs, has made for the first time a mention of the principle of transparency, let alone along with the principle of meritocracy, in the matter of specific procedures of selection of public staff. It is to emphasize the fact that meritocracy was explicitly adopted in the Constitutions of the Greek Revolution but afterwards it was erased, already in the 1844 Constitution, and therefore political clientelism was established. This permanent practice of the Greek political life is quite unfriendly to transparency and is also conducive to corruption and financial crimes.

Besides, anticorruption is related not only to transparency but also to other fundamental principles, such as integrity (Moukiou, 2018). According to a 2016 report of the OECD on preventing corruption in public procurement, *“...safeguarding integrity is at the basis of any effort to curb corruption in public procurement”*.

Nowadays, it is possible to support the opinion that transparency in a wide sense (including integrity, honesty and anticorruption) in public procurement constitutes, according the data of the jurisprudence of the Court of Justice of the European Union, a customary rule of international law, which binds both the organs of the European Union and the organs of its member states (Moukiou, 2018). The development of this international rule is related mainly to the aforementioned UNCAC and subsidiarily to the Agreement on Government Procurement (GPA) (Moukiou, 2018), which is a plurilateral agreement under the auspices of the World Trade Organization (WTO). This legal tool is based on the principles of openness, transparency and non-discrimination.

In other words, the doctrine tends to recognize the customary nature of transparency, as a principle in the field of public procurement law, whilst other similar principles, such as good faith, have been explicitly recognized as a general international custom by the Court of Justice of the European Union (Moukiou, 2018). We consider that transparency is a genuine custom in the framework of international law, which is not limited to the specific field of public procurement but it has a much wider content, at least for public power.

Institutions specialized in anticorruption

Anti-corruption efforts vary in scope and in strategy, following the variety of forms of corruption. However, a general distinction between preventive and reactive measures is sometimes drawn. Investigative authorities and their attempts to unveil corrupt practices would be considered reactive, while education on the negative impact of corruption, or firm-internal compliance programs are classified as preventive measures.

As far as Greece is concerned, a new model of State has been introduced, through the adoption of law 4622/2019, on the Executive State. It was an important, symbolic act, that the first piece of legislation presented by the new government, shortly after its election in 2019, established an "Executive State", in which the prime minister's office coordinates the work of government and the central administration (Konstadaras, 2022). Transparency is regarded so important in this law that it is explicitly mentioned in its title. Furthermore, that text introduced an organ, called "National Transparency Authority", which replaced a big number of control bodies, which were deprived of independence. This authority, exemplifying the international model of independent administrative authorities, is a specialized mechanism to cope with corruption, mainly in the public sector. It has three operational pillars, as follows:

- a. Conduction of controls and investigations,
- b. Prevention and integrity policies,
- c. Relations with society, through various practices, such as training and sensibilization against corruption. Anyway, the doctrine remarks that in general, learning of law begins in an unofficial way, from parents to kids (Pierrat, 2007).

The emergence of that authority was based *inter alia* on the assessment of data relevant to similar bodies of other countries, such as the Italian National Anti-Corruption Authority, two organs of France (French Agency Anticorruption, High Authority for the Transparency of the Public Life) and the Independent Commission Against Corruption, which was founded by Hong Kong in 1974. This Commission is regarded as a pioneer in the development of the internationally recognized strategy which is based on the aforementioned three pillars. According to 2019 data, Hong-Kong was classified for 25th year in the first position among 186 countries as the freest country of the world, following the Index of Economic Freedom, whilst the grade of the integrity of the government constitutes one of the basic indexes of the research on the matter. In a similar way, it occupied the 14th position in 2018, as for the CPI index of the organization “Transparency International”.

Nevertheless, the Greek authority is not exempted from various problems. For instance, it is competent to emit “recommendations”, which have paradoxically an obligatory character. This norm is deprived of logical coherence and causes confusion with the traditional scheme of executable administrative acts. Besides, according to its 2020 report, the most cases of its control activity were related to public maladministration, not with corruption. It results that in practice to a great extent it enacts the same role with the Greek Ombudsman, which is officially devoted above all to the confrontation of maladministration. This situation is problematic for many reasons, such as the fact that citizens ignore this competence of the National Transparency Authority or they have the dilemma on which authority to petition. It is also notable that the 2020 report makes no reference to the time needed for the completion of the examination of a denunciation. For that period, criticism has also been raised against the Authority, as some commentators consider that it emphasized its duties on the Covid-19 crisis and therefore it was led to downgrade its mainstreaming mission against corruption. Last but not least, even as for the third pillar, which seems to be the most successful, there are some difficulties, such as the unwillingness of the Ministry of Education to go further with an educational proposal made by the Authority.

ANTICORRUPTION IN THE FIELD OF SPORTS LAW

Introductory remarks on sports law

Norms on sports have evolved into a separate field of law. This branch is connected with the phenomenon of an intensive tendency of acquaintance of social groups with sport context, which is facilitated by the fact that the branch is explicitly considered to include even norms that are not specifically applicable to athletic institutions (Maniatis, 2020). Furthermore, it is notable that there is an authentic, self-existent fundamental right to sports, which is based on the first generation right to associations (Maniatis, 2017). It is considered as a second generation right whilst its alternative version of right to physical education began to be constitutionalized before it. It may be also considered as a 3G right, from the explicit use of the constitutional term “right” in 1976 and on.

Nowadays, it is combined with a new trend in legal terms, such as the standard of transparency. The principle of transparency is not an invention of the current era in the sports context. For instance, the “gymnastics” is a word coming from the ancient Greek, having the meaning to exercise naked (Anonymous, 2018). Thucydides mentions as pioneers of nudity the Spartans, who anointed their bodies with oil during gymnastics. From this remark an argument derives against current abnormal practices in sport, such as doping. Besides, the fact that athletic activities in ancient Greece were held in an obligatory way without clothes deterred from cheating and ensured transparency. The naked body could be held as a symbol of innocence as far as the objective of victory is concerned. The case of Diagoras’ daughter, Kallipateira, who disguised herself as a trainer of athletes at the Olympic Games, to attend them, was mentioned as the occasion for the establishment of nakedness for trainers of athletes, who were called “gymnastes”. Anyway, the nakedness itself contributed to the abolition of the Olympic Games in the era of dominance of Christianity.

Sports are regarded as a factor of social cohesion, in the international context. For instance, the 2030 Agenda for Sustainable Development, adopted in 2015, has recognized sport as an important enabler of sustainable development, highlighting its contribution to the realization of development and peace in its promotion of tolerance and respect. However, the sports domain is not exempted from various problems of illegal acts, particularly of special forms of criminal acts, such as doping and hooliganism. As far as violence in sport is concerned, it is to signalize that the Greek penal procedure has drastically evolved into a set of severe norms the last years, particularly in 2022, given that this form of violence still constitutes a serious social problem (Maniatis, 2022).

Furthermore, corruption is an important form of illegal activities in the same domain, especially in the matter of its professional versions. For instance, on 28 January 2022, the International Cricket Council (ICC) published two decisions relating to Mr. Brendan Taylor, a former member of Zimbabwe's national cricket team, banning him from all forms of cricket for three-and-a-half years (Hogg et al., 2022). The punished person accepted four charges of breaching corruption regulations under the ICC's 2018 Anti-Corruption Code for Participants, and a separate charge of doping under the ICC Anti-Doping Code (Hogg et al., 2022). The Taylor case is a stark reminder that even those cricketers who self-report themselves to the ICC still stand to receive heavy penalties in circumstances where corruption is identified, and the importance of the preservation of mobile communications with third parties in allowing the ICC to properly investigate possible misconduct (Hogg et al., 2022).

It is also notable that good governance measures should be in place in sport organizations to cope with the phenomenon of corruption, which has been exacerbated by the pandemic of COVID-19. Furthermore, it is important to implement the United Nations Convention against Corruption resolution 8/4 on safeguarding sport from corruption.

The United Nations Convention against Corruption resolution 8/4

The United Nations Convention against Corruption resolution 8/4 constitutes an official text based on the relevant Convention. It was adopted in Vienna, during the 2017 Conference of the States parties to that legal tool. As eloquently expressed by the United Nations Office on Drugs and Crime, which assists the States parties in the fight against corruption in sport, there is a distinction between illicit and illegal activities, including illicit and illegal gain related to the dramatic evolution of sports over the last decade (United Nations Office on Drugs and Crime). The resolution has an important preamble, which is bigger than the main part. It is notable that the preamble emphasizes the Olympic system of values and principles, making an explicit reference to the Olympic Charter on the matter. Nevertheless, it omits any reference to the aforementioned tradition of nakedness of sportsmen in ancient Greece (not only in the Olympic Games), as a symbol of transparency and disapproval of abnormal practices.

It affirms the invaluable contribution of the Olympic and Paralympic movements in establishing sports as a unique means for the promotion of peace and development, in particular through the ideal of the Olympic Truce, whose spirit was transgressed once again through the war between the Russian Federation and Ukraine, which began some days after the inauguration of the Winter Olympic Games, in February 2022. The preamble calls upon States parties that will host such Games and other major

sporting events in the future, as well as other States parties, to enhance measures to address the risks of corruption related to such events.

Article 2 of the main part of the resolution cites that States parties should enhance their efforts to prevent and fight corruption in sport, and in this regard stresses the importance of robust legislative and law enforcement measures, and also calls upon States parties to improve cooperation, coordination and exchange of information in accordance with the fundamental principles of their legal systems. According to article 5, they are encouraged to consider establishing and developing, where appropriate, confidential complaint systems, whistle-blower protection programs, including protected reporting systems, and effective witness protection measures, and to increase awareness of such measures. It is about modern procedural measures, coming from the general law on fight against crime committed by criminal organization, in the framework of penal procedure.

Article 6 cites that States parties are encouraged, in accordance with their national legislation, to address the challenge that corruption in sport could in some cases pose to the advancement of gender equality and the empowerment of women. It is about an important disposition, which is based on the preamble. However, this interesting mention to the empowerment of women, which regularly are regarded as the weak gender and are supported by explicit dispositions on the matter, such as article 116 par. 2 of the Greek Constitution especially after the 2001 amendment, is rather vague, even in the preamble.

CONCLUSION

On the one hand, corruption of public sector is a diachronic phenomenon, which is not limited to the crimes of bribery whilst corruption and economic crime are communicating vessels, on international scale.

On the other hand, anticorruption is a new concept and comprises various methods and institutions. It ties in with other similar principles, such as integrity and mainly transparency. Transparency has gained territory to such a pitch that it has the status of general custom of international law, independently to its eventual explicit recognition in formal Constitutions, which is a parallel important development.

The RQ of the current paper has been fully confirmed, given that it is difficult and unpleasant to adopt anti-criminal measures in the matter of corruption. It could be easier and more acceptable to benefit from pedagogical and preventive methods. The challenge really has to do with mainstreaming policies, such as the training and education of people, especially of pupils in the official educational system, and the systematic consecration of anticorruption, at least in form of transparency, at

constitutional level. Formal constitutions are by nature the most important source of law and essentially constitute influential codes of values, for both the society and the personnel of the State. In a parallel way, the private sector should collaborate with the State for the confrontation of corruption, by making use of its own tools, such as codes of business ethics. So, it is recommended that anticorruption be based on techniques of prevention rather than of repression.

It is notable that the Greek Constitution has been enriched with an explicit recognition of transparency, from 2001 and on. However, this principle has been partly combined with too detailed dispositions on media in correlation with public contracting, which proved to be incompatible with the principle of proportionality. The formulation of transparency in the Constitution is neither single nor emphatical. It is highly recommended to take a systematic approach to that standard as an intersectoral principle, which is not limited to some domains, such as media, management of public resources and electoral fee and selection of public servants. Furthermore, it would be useful to create a special section, dedicated to general fundamental principles of the Constitution, exemplified by democracy, freedom, equality, proportionality and transparency. Given that there is still an intense redundancy with independent authorities and other control bodies, being relevant to transparency, anti-corruption and confrontation of public maladministration, the State should simplify the network of those organs. A mainstreaming initiative on the matter could consist in fusion of the Greek Ombudsman and the National Transparency Authority, which would implicate inter alia a unified petitioning system.

As far as sports law is concerned, corruption is present, mainly in form of corruption in the private sector, and so is anticorruption. Although many forums, such as inter alia the Council of Europe and the OECD, have contributed to the anticorruption and the promotion of integrity in sport, the United Nations, particularly through their Office on Drugs and Crime, have enacted a role of major importance. For instance, the United Nations Convention Against Corruption resolution 8/4 on safeguarding sport from corruption constitutes the mainstreaming legal tool of soft law on the matter, which is endowed with a global overview, including a feminist aspect. It is based inter alia on Olympism, whose status in the framework of sports law is comparable to the status of the national Constitution, whose explicit new entry is the principle of transparency.

Anticorruption is marked by a negative formulation for a very positive way of behavior in the public context as well as in the private one...

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PERSONAL DATA PROTECTION WITH EMPHASIS ON FACEBOOK

Maniatis, Antonios

Captain's School of the Merchant Navy Academy of Macedonia, Thessaloniki, Greece, Department on Communications and Digital Media of the University of West Macedonia, Kastoria, Greece

ABSTRACT

Personal data protection law is not exempted from normative redundancy (classical right to personality and right of the protection of personal data of natural persons), demanding a special approach to simplify the institutions on the matter. However, it is innovative, with new guarantees, such as the right to erasure of personal data, introduced by the General Data Protection Regulation (GPDR), and the right to image, which was explicitly previewed, just for a few years, by the Civil Code in France and deserves a constitutional consecration. This constellation of rights is particularly useful in the case of social networks, such as Facebook, whose most important crisis has consisted in the Facebook-Cambridge Analytica case with major impacts in the USA and the UK. Last but not least, the Court of Justice of the European Union has been traditionally beneficial for the protection of personal data, as it was the case of its jurisprudence "Schrems I" and "Schrems II", related to Facebook.

Keywords: Americanization of law; Facebook; General Personal Data Regulation (GPDR); right to image; right to erasure / right to be forgotten

INTRODUCTION

Personal data means any information relating to an identified or identifiable natural person (data subject), according to the definition incorporated in the Regulation (EU) 2016/679, commonly known as the General Data Protection Regulation or GPDR. This text, which was adopted in 2016 and is applicable as of May 25th 2018, protects in particular the right of natural persons to protection of their personal data and harmonizes all data privacy laws across Europe.

The current paper analyzes the protection of personal data, particularly against electronic dangers, and has the following hypothesis as central Research Question (RQ):

The Personal Data Protection Law is innovative, with new guarantees that are particularly useful in the matter of social networks.

The analysis, before emphasizing Facebook, tries to localize some new human rights relevant to the aforementioned branch of law.

Afterwards, it deals with social networks and personal data issues, by putting the stress on violations of the right to protection of personal data in correlation to Facebook.

Furthermore, it refers to recent cases of those violations, mainly the Facebook-Cambridge Analytica case.

Then, it focuses on the EU-USA agreement on exchange of personal data, which was achieved at the beginning of 2022.

NEW RIGHTS OF PERSONAL DATA PROTECTION LAW

Protection of personal data is in fashion, especially in the European Union with the application of GDPR. That text is recognizable for the emergence of a new human right, consisting in the right to erasure, mainly known with the most impressive official name “right to be forgotten”. According to article 17 par. 1, the data subject shall have the right to obtain from the controller the erasure of personal data concerning him or her without undue delay and the controller shall have the obligation to erase personal data without undue delay where one of the previewed six following grounds applies. The first ground consists in the loss of the necessity of maintaining those data, in the sense that they are no longer necessary in relation to the purposes for which they were collected or otherwise processed.

In a parallel way, personal data protection is in fashion in various national legal orders of the European Union, including the Greek one, which is marked by various norms and independent administrative authorities on the matter (Maniatis, 2010). At least in France, the right to image is an autonomous right in comparison with the right to privacy (which is recognized in the Civil Code), in spite of the fact that its explicit consecration in that Code has been removed (Maniatis, 2021). Article 9 par. 2, adopted in 2003, cited: “ *Everyone has a right to the image on his person. The right to the image of a person is the right that everyone has over the reproduction or use of his own image. The image of a person may, however, be reproduced or used, provided that it results in no real and serious harm to that person*”. The deletion of those dispositions is indicative of a wider fight among the supporters of an absolute right to information and those who defend personal data (Gauvin, 2010).

The violations of the right to privacy and of the right to one's image are separate sources of harm, according to French case law. In addition, the right to the image is also governed by the Intellectual Property Code, which establishes the guarantees offered to works and their authors.

SOCIAL NETWORKS AND PERSONAL DATA ISSUES

Social networks, such as Facebook and Twitter, have been a modern form of digital communication, which is particularly popular, especially to the so-called Millenials or Generation Y, namely the

generation born from the 80s and on and is familiarized to new technologies by birth. The user of Facebook seems to take on the responsibility of his own choices, as for the limits of the use of his freedom to speech.

In the framework of social networks, the voluntary unveiling of information related to privacy constitutes an emblematic and dominant feature of those media (Mitrou et al., 2013). This trend tends to take the form of lifelogging, which means the collection of your life's data using technical tools and services, and then analyzing them. Lifeloggers make use of devices capturing everything that happens around them, such as smart glasses or wearable cameras. Lifelogging through a social network consists in a more or less self-description of life and everyday experience of a person. The "raison d'être" of social networks is the interaction of virtual identities of real persons, being encouraged, if not obliged, to create a social profile and a network of relations (Mitrou et al., 2013). It is to put the stress on the fact that the regulatory policy of the USA on Internet has facilitated the extended use of social networks and the Internet communication in general (Mitrou et al., 2013). Instead of the scheme of a control exerted by the State involved, which has been adopted by other countries, such as the Russian Federation and China, the USA, in which the most companies delivering services of access to Internet content are headquartered, have opted for the self-regulation alternative, which is related to business ethics. In that *sui generis* framework, companies are exempted from any responsibility before the State authorities as for the content added by their users. As a counterbalance to this regulatory vacuum, they have been assigned the duty to impose themselves any restrictions being relevant to the content of the speech which is incorporated in their websites.

The Communications Decency Act 230 has been based on the concept of Internet as a machine producing innovation and as a "digital marketplace of ideas". Given that Facebook may impose restrictions on the access of a huge numbers of users to an Internet content which sometimes has a big political importance, a serious concern has been formulated on the eventuality of abusive exercise of that power. The doctrine has highlighted the fact that in practice the marketplace is not self-regulated in favor of users (Mitrou et al., 2013).

Besides, it is notable that Facebook admitted that it has repeatedly misled its members, from December 2009 till July 2010. It accepted to be subject to surveillance for 20 years, with the threat of a fine of \$16,500 a day for any future breach of that agreement (Mitrou et al., 2013).

In the meanwhile, communication via websites of social networking had a particular significance in the case of political movements in the Middle East and in North Africa, where phenomena of State surveillance were noticed (Mitrou et al., 2013). Governmental factors acquired illegally an access to websites of their opponents in Facebook, erased their social profile and through malicious software gathered information on the mode of organization of their groups as well as personal information related

to the rest members of those groups. In January 2011, as for the uprisings in North Africa, which could be held as the emblematic beginning of the second, current phase of the period of neo-constitutionalism in Africa, access to Twitter and also afterwards to Facebook was prohibited.

If the period of neo-constitutionalism began around 1990 and is exemplified by the novelty of Constitutional Court in African countries, 1992 is generally held as the year of emergence of globalization, at least as far as the European Union is concerned, which was previewed by the Maastricht Treaty. In the current context, a special phenomenon has been noticed, on the way judges enact their role in the matter of social networks. In some decisions on Internet, there is a frequent use of references to a foreign jurisprudence (Mitrou et al., 2013). Tribunals do not avoid enriching their case law through the interpretation of concepts which has been formulated in sentences of tribunals of other sovereign States. For that reason, proposals have been made for a cooperation among courts of justice and for the flexibility of soft law, to ensure the protection of civil rights in the era of globalization.

This osmosis reminds of the expression “Americanization of law”. This term is not very frequent but is used by the doctrine, let alone in various alternative senses. For instance, it is likely to think about an excess of judicialization but also a convergence of material rules in the framework of a certain field of law (Pierrat, 2007). “Competition law” remains a good example of that American influence through successive internationalization and then European harmonization: the desire to imitate North America is reflected in the EU policy of standardization at all costs.

THE FACEBOOK-CAMBRIDGE ANALYTICA CASE

Facebook experienced its most important crisis ever, in March 2018, which remains the main point of reference as for those who challenge Internet and similar aspects of new technologies. Then, a cache of documents inside Cambridge Analytica Ltd, which was a British political consulting firm, made its way into the hands of the New York Times (Maina, 2021). Those documents were proof that Mr. Stephen K. Bannon, a board member of Cambridge Analytica and a former aide of Mr. Donald Trump, had illegally obtained data from tens of millions of Facebook users and used it to create voter profiles. The report of that journal claimed that even as Cambridge Analytica continued to build voter profiles derived from Facebook data, it and its British affiliate, the SLC Group, were in contact with a Kremlin-linked oil business, Lukoil, which however denied any interference. Nevertheless, the Washington data privacy lawmakers were already investigating Russian involvement in the 2016 presidential elections and demanded that Facebook CEO, Mr. Mark Zuckerberg, appear before congress to respond to the allegations. Besides, the New York Times broke the news that Mr. John Bolton, the National Security Adviser and handpicked by the President of the USA Mr. Donald Trump, received early versions of its Facebook-derived profiles from Cambridge Analytica. Being endowed with this

information, Bolton's "super PAC" supported candidates who used advertisements developed by Cambridge Analytica. The newspaper did another report on a supposed partnership between the public software company "Palantir Technologies", funded by a Mr. Trump's supporter, Mr. Peter Thiel, and that firm. In spite of the fact that this deal fell through, according to the report an employee of the software business kept working with Cambridge Analytica to harvest Facebook data to form psychographic profiles of the American voters (Maina, 2021).

That case had very negative impacts on both private companies involved. On the one hand, Facebook had to pay considerable fines. On the other hand, Cambridge Analytica was made a thing of the past. In July 2018, the UK's Information Commissioner, being competent for the enforcement of data protection rules, declared publicly that in 2014 and 2015, the Facebook platform allowed an app that ended up harvesting 87 million profiles of users around the world that was then used by Cambridge Analytica in the 2016 presidential campaign and in the referendum on Brexit. As a result, she announced her intention to fine Facebook £500,000 for its role in failing to protect users' data.

According to an approach formulated in 2020, nevertheless how many ever changes or updations are done to specific applications, the user of that particular platform should be aware of what kind of personal data and what kind of applications he/she should grant permissions to (Komati, 2020). Just one year later, after billions of dollars in fines for failing to protect users' data, Facebook confirmed once again that remark. It was about the theft of data from half a billion users, such as their birthdates, phone numbers, email addresses, and full names. The hackers did not have merely an access to those data but posted them online for people to see and use it for free (Maina, 2021). However, it is to clarify that the aggression against Facebook is not a unique case against tech business, given that other important companies, such as "eBay", "Linked in", and "Adobe", have been vulnerable to hackers in recent years.

THE EU-USA AGREEMENT ON EXCHANGE OF PERSONAL DATA

The President of the European Commission, Mrs. Ursula von der Leyen, announced that an agreement has been achieved on exchange of personal data between the EU and the USA, in March 2022. However, legal solutions have to be found to cope with problems localized by the Court of Justice of the European Union on a similar text of agreement. It is about the "Schrems II" decision, which was issued in July 2020 (Psara, 2022). According to a source of information in the interior of the European Commission, the legal framework to adopt will preview specific guarantees in favor of European citizens, whose personal data will be notified to the USA.

It is notable that the Commissioner for Justice, Mr. Didier Reynders, has expressed his satisfaction because the newly achieved agreement tackles with two fundamental points of the aforementioned

decision. First of all, it is subject to the classical principle of proportionality as far as the possibility of national security services to access personal data. Besides, it does not ignore the right of European citizens involved to benefit from a mechanism of recourse. From that point of view, it is about the engagement of the USA to adopt reforms reinforcing the legal protection of privacy and civil rights as far as the activities of American Spy Services are concerned.

Nevertheless, according to some activists, the USA do not have the intention to change their surveillance law but merely to preview some norms of execution, making an explicit use of the EU terminology on the matter, exemplified by the term "proportionality". It is not clear how that method would not be judged as illegal, given that monitoring by the USA has already been judged as disproportional. In other words, previous agreements have failed twice, from that point of view. Besides, the principle of privacy shield for the use of commercial data does not seem to have been actualized, in spite of the fact that the GDPR has been put into force. In legal terms, any new arrangement will not emerge as a bilateral text but as an executive decision of the European Commission, being subject to a previous examination by the European Data Protection Board (EDPB) (Psara, 2022). The EDPB, previewed by GDPR as an independent European body, contributes to the consistent application of data protection rules throughout the EU, and promotes cooperation between the EU's data protection authorities. The members being endowed with the rights to vote are the representatives of those authorities and also their EU homologue organ, namely the European Data Protection Supervisor.

Mr. Max Schrems is the honorary president of the organization "NOYB" (abbreviation for the phrase "My privacy is none of your business") and has been known as the procedural party in the cases "Schrems I" and "Schrems II" before the Court of Justice of the EU. As far as the first case is concerned, the Irish High Court referred it to that Court. The request for a preliminary ruling was made in proceedings between Mr. Schrems and the Irish Data Protection Commissioner, concerning the latter's refusal to investigate a complaint made by that individual, regarding the fact that the subsidiary company of the Facebook company, Facebook Ireland Ltd, which is competent for users outside the USA and has recently been renamed with the name "Meta Platforms Ireland Limited", transfers the personal data of its users to the USA and keeps it on servers located there. On that request, in 2015 the tribunal headquartered in Luxembourg ruled that the European Commission's adequacy determination for the U.S.-EU Safe Harbor Framework was invalid, which led to the creation of the EU-U.S. Privacy Shield. In a next case, frequently referred to as "Schrems II", the same tribunal invalidated the European Commission's adequacy determination for Privacy Shield after Mr. Schrems amended his complaint of Facebook Ireland Ltd to the Irish Data Protection Commissioner.

The winner of this litigation has recently commented that it is particularly disgusting that the USA seem to have made use of the ongoing war between the Russian Federation and Ukraine, to press the EU in this economic matter (Psara, 2022). He added that it is sad that the EU and the USA did not use that situation to achieve an agreement on “non-espionage”, being based on fundamental guarantees, between democratic regimes sharing the same concepts. It results that both customers and businesses face more years of legal uncertainty. He and his organization have declared that they have the intention to refer the matter back to the Court of Justice.

CONCLUSION

The RQ has been fully confirmed, given that the personal data protection law is an innovative branch of law, being endowed with new human rights, such as the right to image and the newer right to be forgotten. This constellation of rights is particularly useful in the case of social networks, such as Facebook, given that photos depicting natural persons are uploaded without their permission, let alone the fact that sometimes they are part of a fake profile. The current century enhances the branch of personal data law, particularly under pressure of mass publication of personal data, including human images, through social networks.

That branch is based not merely on rules produced by the competent organs by each State involved but also on various sources of law, of either public origin (jurisprudence) or private one (self-regulation, business ethics). Some judges have made a step forward, by making an extended use of foreign jurisprudence, due to the international character of Internet communication. The method of comparative interpretation of law is a classical one and seems to be renewed therefore in the current era, just as the classical right to personality has been renewed through the emergence of the right to protection of personal data.

Last but not least, the Court of Justice of the EU has proved to be particularly beneficial for the protection of personal data (Sotiropoulos, 2006), far away from a bad version of the phenomenon “Americanization of law”, especially in the traditionally successful procedure of a request for a preliminary ruling.

However, the question of personal data is not exempted from the problem of normative redundancy (classical right to personality and right of the protection of personal data of natural persons), demanding a special approach to simplify the institutions on the matter, for instance in the Greek legal order. Furthermore, the right to image (which has *inter alia* a philosophical background and a connection with the intellectual Property law) would deserve an explicit constitutional consecration, preferably in the framework of this synthetic approach.

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INNOVATIVE RELATIONAL NETWORKS PHENOMENA IN SUPPLY CHAIN

Marcone, Maria Rosaria

Business Economics, Marche Polytechnic University, Italy

ABSTRACT

This paper investigates within the theoretical fields of the resource based (RBV) view and the knowledge based view the supply chain relationships maintained by manufacturing producers with their suppliers in order to recruit in open innovation platforms at the aim to launch innovative processes that improve the competitive performance of the investigated firms belonging to certain supply chain. Assuming that improving the performance of companies improves the performance of the entire supply chain.

Transactions on the 'supply side' have evolved today: transactional relationships are not to be considered as traditional ways of regulating supply chain relationships characterized by consolidated or even mature technologies and many types of innovations (and therefore technological assets) emerge outside the usual and close collaborations between suppliers and industrial buyers.

As for the methodology adopted, this is a qualitative analysis of medium-sized business cases (Medium sized firms – MSFs). A longitudinal multi-case analysis has been conducted in co-innovation processes of creative firms belonging to Italian technological sectors (machinery, mechatronic, precision mechanics, health care, technical fashion, digital agriculture).

From this research, some interesting results emerge: purchasing relationships in co-innovation linking operational re-design processes; the advent of disruptive innovative technologies in strictly productive activities; the relational dimension of unconventional innovative processes. The paper has the merit of presenting the modern and unusual innovative shedding new light processes on the success factors in modern competitive contexts increasingly anchored to integrated and relational relationships in the supply chains.

Keywords: Open innovation, network relationships, supply chain, supply chain relationship

1. INTRODUCTION

The aim of this paper is to investigate the role of innovativeness in 'new-model types' in the modern supply chains reconfiguration processes. Innovation generates flexibility to compete, increases dynamism in complex and changing contexts, improves the competitive edge (Thrassou et al., 2021).

Firms can develop supply innovative processes to seek out and transfer external knowledge into their own innovation activities (Ramussen, 2016; Leonidou et al., 2020). They can also create channels to move unutilized internal knowledge to other organizations in the surrounding environment. From here two phenomena emerge: first the importance of new supply chain relationships in innovative open innovation processes; second the amplification of the 'supply chain knowledge gap', which open innovation determines. Transactions on the 'supply side' have evolved today: contractual relationships take place within a network of potential innovative relationships that involve start-ups, innovation communities, young and supply firm in new sectors, etc. It is clear that transactional relationships are not to be considered as traditional ways of regulating supply chain relationships characterized by consolidated or even mature technologies. Moreover, if a firm competes mainly on product-service innovation, the type of relationship could depend on where the innovation is expected to emerge: many types of innovations (and therefore technological assets) emerge outside the usual and close collaborations-relations between suppliers and buyers.

We ask ourselves how these innovative processes impact supply chain relationships from a supply side perspective. The work, within a supply chain analysis perspective, assumes strategic openness as involving the engagement of multiple actors distributed across supply chain levels and 'across different supply chains'. We want to investigate the open innovation (OI) that increasingly involves firms belonging to integrated supply chains in the knowledge. Limited attention is placed on understanding how firms can efficiently combine and manage different crowdsourcing platforms. More specifically, we know little about the challenges that firms face when implementing external knowledge through crowdsourcing phenomena. The research work, which is still in progress, is based on a qualitative survey and some preliminary results are presented here. In this first period of research, a case study was conducted, relating to non-large companies, the selection criteria of which are reported in the section referring to the methodology.

As regards the structure of the present research contribution, in the first part we discuss the theoretical model, with the enucleation of the hypotheses; subsequently the contents of the methodological approach used are exposed and finally conclude with discussion of the results and their theoretical and managerial implications.

This fine-grained approach is likely to contribute to a more detailed investigation and understanding of the potential implications of developing new and non-familiar technological processes (production systems, products, business market's utilities, ecc.).

2. THEORETICAL FRAMEWORK

The purpose of this paper is to investigate within the theoretical fields of RBV and theoretical field of the knowledge based view, the supply chain relationships between manufacturing producers and their suppliers, including new recruits in open innovation platforms in order to launch innovative processes that improve competitive performance (Baden-Fuller and Haefliger, 2013).

The skills that firm need to improve in developing synergies with their suppliers' expertise appear increasingly important: firms should be able to identify and use external knowledge in combination with their operations activities.

Numerous managerial studies have made use of the theoretical framework focused on resources - resource based view (RBV) - to analyse how various forms of integration between actors-firms in the supply chain (SC) impact on their performance (Flynn *et al.*, 2010; Cao and Zhang, 2011; Schoenherr and Swink, 2012). The resource-based approach allows as to estimate the value of the “relational resources” that are developed in the “buyer-supplier” relationships. Many studies have followed on the importance of relationships in SC (Parmigiani and Riviera-Santos, 2011; Cao and Lumineau, 2015; Gölgeci *et al.*, 2018).

The analysis of the supply chain in the relational perspective considers the interdependence that is created between firms and the willingness that they have to initiate and control forms of interaction that increase the degree of integration of the supply chain.

We want to investigate the open innovation (OI) that increasingly involves firms belonging to integrated supply chains in the knowledge that limited attention is placed on understanding how firms can efficiently combine and manage different crowdsourcing platforms (Ruiz and Beretta, 2021). More specifically, we know little about the challenges that firms face when implementing external knowledge through crowdsourcing phenomena. Although the field of study is still being refined as regards the systematization of conceptual constructs, some contributions have explored such as the open innovation process enhance the relationship between product innovativeness and the firm's technology path improvement (Gassmann, 2006; Al-Kwafi *et al.*, 2021).

The analysis of the integration between different supply chain's entrepreneurial realities, aimed at constituting a single 'supply chain business system', essentially refers to investigating the quality of collaboration between firms in the activation of complex processes that through the production and transfer of products and services at the 'downstream' stages generate value (Thrassou *et al.*, 2021).

Despite the relevance of innovation in managerial literature, empirical research on the innovation-competitive performance relationship is underdeveloped and shows controversial results. To bridge the gap, the aim of this paper is to investigate the effectiveness of the innovative processes that are configured in new 'model-types'. Specifically, one would like to deepen the relationship perspective

that is based or could even be better developed with the network-level design of network-type relational structures. Integration is an important theoretical framework and can be analyzed by taking into consideration two different streams apparently opposed to the management of supply chain relationships: the transactional approach, based on exchange and on the market, and the one that refers to collaborative relationships based on partnerships. The first is essentially based on contracts. The second, 'long-term based', takes into consideration the resource based view. In this context, a third way of investigation can in our opinion be represented by network analysis. Networks are structures that convey information in markets, provide a competitive advantage to some actors over others, and offer opportunities otherwise unavailable. The network analysis allows the scholar to grasp two theoretical frameworks using the main international managerial literature, namely the relational based view and the resource-based view (Marques et al., 2020; Hofer et al., 2022). In agreement with the relational based view, the network perspective sees supply chain as business network, where business units or firms are represented by nodes, and long-term complex interactions between them are represented by links (Håkansson and Ford, 2002). In the context of the resource-based view, academic interests are welcomed, stating that in the prerequisites of business, or strategic networks of success exploitation is much more recent. From a resource-based perspective firms differ in their capability to shape and exploit supply chain's networks, to extent that their capability to leverage networks has been identified as distinctive.

Recent empirical studies refine the conceptualization of network pictures by testing the dimensions of this concept and adopting a dynamic view, focused on the processes through which networks are understood and strategy enacted within them. If firms seek increased operational performance, market performance, innovation and financial performance, they need to develop network specific capabilities. One such critical capability refers to management skills and competencies in developing valid views of network relationships and their potential evolution, a condition to perceive the opportunities embedded in networks (Knoppen *et al.*, 2021).

We hypothesized the following

H 1. The supply integration of the supplier-industrial buyer's production systems is positively related to higher levels of performance in the supply chains that are characterized by the redesign of innovative production processes.

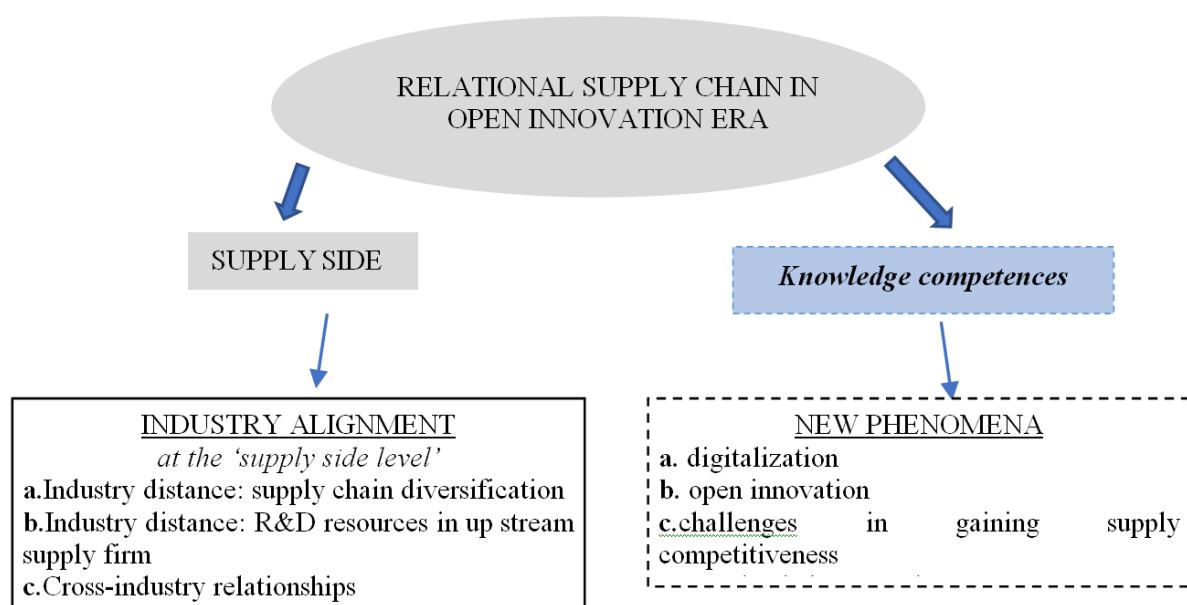
Some studies have followed, especially in recent times, on the analysis of the trade-off between familiarity and newness in product innovation both in producing effects on innovative business performance and in generating new configurations of supply chains, especially in up-stream and

down-stream relationships. Others, on the study of the trade-off between familiarity or on the contrary newness of both technological and market knowledge (Ozer and Tang, 2019).

Although RBV places its emphasis almost exclusively on the benefits of collaborations based on the development of resources that are specific (unique or dedicated and therefore difficult to imitate) to each relationship, on dates and always the same supply chain, interactions between economic actors belonging to diversified supply chains are emerging with increasing force in global competition. In practice, the birth of these relationships requires the formation of new relational assets that are the basis of the ability of firms to reposition themselves in the new structures of the offer or supply chain: they are perhaps even more important than those relational assets, traditionally dedicated to maintaining consolidated relationships, as well as identifying and planning new ones.

As highlighted by Chersbrough (2018), innovation strategies and R&D firm activities will play an important role in firm's competitive context. Moreover, as the results provided by some studies, external knowledge and above all high level openness on the part of entrepreneurs and managers produces strongly positive impacts in an economic context (Ahn *et al.*, 2018). We want to clarify that it is an opening in a modern sense, that is to say a natural and spontaneous opening to unusual forms of innovative paths for medium-small businesses. The goal of the research work is to verify what are the competitive objectives that the analyzed firms aim to achieve by formulating strategic choices based on crowdsourced R&D. (For an analysis of the characterizing factors in a strategic and managerial sense, see figure 1).

Figure 1 - Significant phenomena in a strategic and managerial sense



While much research attention has been placed on external crowdsourcing, recent studies highlight that the principals of crowdsourcing require mor structuralised (dynamic) capabilities in R&D and

Manufacturing activities: outbound open innovation is based on the principle that innovation involves all managerial activities and all business units within firms (Malhotra *et al.*, 2017; Hofer *et al.*, 2022). Dynamic capabilities enable firms to propel their performance efforts in the face of surmounting turbulences in the environment by constantly creating/acquiring, combining and/or recombining resources in an agile and improvisational manner, facilitating the generation of new opportunities as well as handling of environmental constraints (Forkmann *et al.*, 2018; von Delft *et al.*, 2019). Innovative strategic business theory and practice still lack clarity and extension in the operational realities of medium sized enterprises. Extant knowledge is numerous, albeit dispersed, not always well focused and wanting in terms of business applications (Thrassou *et al.*, 2021). This paper, thus, presents an unconventional study approach, that of open innovation, which has recently expanded the already varied multi-perspective strategic outlook to investigate the matter across its various modes of carrying out in modern and interrelated supply chains.

For this we assume the following.

H 2. The implementation of research-based forms of cooperation through the use of open innovation increases the value of innovative supply chains.

3. METHODOLOGY CASE STUDIES AND RESEARCH SETTING

The study was carried out through a case analysis, which started from a series of empirical observations that did not match the prior and consolidated theoretical framework.

An interpretative, qualitative approach - utilizing selected multi-case study interviews (Yin, 2008) such as the primary data collection method - is chosen because it helps to navigate and understand the complex issues that are associated with the data quality concept, and its relation to the factors involving managerial practices to implement facilities in modern relationships within the international supply chain. 'Oriented case studies' investigate the issue within a real life context, drawing on the reviews of a number of sources, and provides the means to review theory and practice iteratively (Ellram, 1996; Flynn *et al.*, 2010; Hennenberg *et al.*, 2010). Multiple cases ensure that common patterns are identified rather than generalized from what many creative innovative strategic business practices that improve the competitive performance of the enterprise, despite research on the innovation-performance relationships have centered about conventional type of innovation and often on one or a few types of innovation (Baden-Fuller and Haefliger, 2013; Damanpour and Aravind, 2021; Story *et al.*, 2015). We collected our data through multiple sources: semi-structured interviews constituted the primary source of data collection, augmented by different secondary data sources. This was important to increase construct validity and allow for triangulation of the partial results (Yin, 2008). Our data

analysis was conducted in an iterative manner, where we constantly compared the emerging cases, and relevant international managerial literature.

We collected our data in the last two years. We conducted 24 semi-structured interviews with numerous area managers of business activities projected on entirely new innovative paths, called innovation process director, research manager, research managers, open innovation manager, director of open innovation strategy, external platform manager, and also with managers (including middle level) of the strictly production area, such as department heads, production managers, industrialization managers (these three professional figures above all for key dimension knowledge). key dimension knowledge ..., etc.).

Then firms are analysed; the prerequisites for their selection are shown below:

- they carry out in-house R&D activities and interact in the innovative processes with suppliers (supply side innovation);
- they carry out product design and also frequent product / processes engineering activities (for each order or, for fashion, at each seasonal collection) both when processing orders and when re-industrializing internal production processes to make improvements to the production lines;
- they initiate new ways of innovating such as open innovation.
- they have a high export share (close to almost all the cases investigated at 50%) and having the production plants in Italy.

In table 1 it is possible to observe some characteristics of the companies under investigation: the sector to which they belong (in the first column on the left), the type and origin of the innovative resources used (central column), the competitive objectives, declared achievable by the firms thanks to the innovation (right column).

Table 1. Characteristics of the sample's firms

supply side (up-stream) attention	Innovative resources: types	competitive-objective choices	evaluation practices
1.Healthcare	External: acquisitions	Increase the productivity of the supply chain	Value creation of the entire supply chain
2.Automotive	Multilocalized teams in the world (owned)	Control of all the innovative principles of the cars of the future	NPD efficiency
3.Electrical mobility.	Internal. Multilocalized R&D activities that welcome the open innovation	Re-shoring and re-design of the supply chain 'supply side'	Value creation of the entire supply chain
4.Healtcare	Internal R&D, start-up in the USA, open innovation	Supply chain design in digital healthcare	NPD efficiency

5. Mechanics (for automotive)	R&D, technological supply chain design of windows in the USA, start-ups in the world, open innovation	Growth of know-how
6. Precision agriculture	Creation of a digital designing digital and agricultural community, it is sustainable services for how part of national and foreign agricultural operators accelerators	Value generation of know-how
7. Mechanics (smart tractors)	Internal R&D; platform for precision agriculture Smart and sustainable agriculture	Economic impact: spillovers effects
8. Mechatronics	Start-up and multilocalized digitalized manufactured R&D (internal and solutions: innovation in technological windows in packaging machines and the world) cable cabling machines	Value creation of the entire supply chain
9. Technic fashion	Collaboration with innovation communities Diversification of fashion collections and technological and use of crowdsourcing . heritage Design of a new production line	NPD efficiency
10. Machinery	Digital development of the remote service Deep learning and co-creation value	Growth of know-how

Source: our elaboration

Our study provides a contribution to up-stream innovation research field addressing recent calls for how crowdsourcing is implemented within firms and its impact on the competitive improvement of R&D firm's activities.

Various interviewees highlighted that it was unclear to participants who was in charge of managing their ideas and how their ideas were evaluated. Certainly, firms saw that it is crucial to involve all operators in the R&D and manufacturing areas in the role of integrators of both internal and external ideas: this is because the actions, although defined by the business strategy, are carried out by the know-how that is most on actual expertise rather than on governance drives.

4. COMPETITIVE PERFORMANCE EVALUATION PROCEDURES

Innovative business strategies significantly favor the growth of the competitive edge and the improvement of firm performance. The assumption that improving business performance improves the performance of the entire supply chain, especially the value that is generated in all steps of the supply chain seems evident in all cases investigated.

The importance of the involvement of highly motivated suppliers of raw materials and innovative principles (crowdsources) in open innovation processes emerges from the empirical investigation. For these suppliers, the case firms studied represent privileged lead users, since they are able to engineer in industrial sense and to test and verify the value of various applications.

Innovative processes are dynamic phenomena that fit into strategic business practices in the reconfiguration of modern supply chains (Eslami and Melander, 2019; Dittfeld *et al.*, 2022). We highlight the need to focus on exploration, innovation, and creativity as managerial practices suitable for undertaking and interrelating companies and supply chains in more extensive innovative processes.

In recent years, many openness innovative projects have emerged in which numerous and diversified economic operator of developers-users-contributors are active subjects in manufacturing products by sharing knowledge in a collaborative and open way. After all, it has been stated that firms can improve resilience through the adoption of a diversification strategy whereby supply chains at the supply level become less dependent on a few supply markets (located in one or a few countries-regions). and made up of a cluster of suppliers). Belonging to multiple supply chains that are distinct, and some of which are newly created or developed, increase supply chain fluidity and would transform the break-down of one supply chain from a problem of 'restoring operations' into opportunities for growth. of production capacity in manufacturing processes similar but independent in upstream stages or pieces upstream of the supply chain. Some of the performances recorded, as highlighted in the fourth column in the table 1, refer to some theoretical principles of reference in the managerial literature (see table 2 in sheet 1).

Sheet n. 1 - Some bibliographic reflections

Some bibliographic indications, among those investigated in the course of the research, which are considered more suitable for interpreting the current competitive contexts are shown in table 2.

Table 2 Highlighting of part of the managerial literature analyzed

Value creation of the entire supply chain	Baroroh, 2021; Hughes et al., 2022 Baroroh et al., 2021; Yun and Jun, 2022)
NPD efficiency	Eslami and Melander, 2019; Ritola et al., 2022
Growth of know-how	Dittfeld et al., 2022
Value generation of know-how	Qi and Tao, 2018; Gaimon and Ramachandran, 2020; Ritola et al., 2022
Economic impact: spillovers effects	Leonidou et al., 2020; Rüßmann et al., 2015
Earning edge	Thrassou et al., 2021; Felsberger et al., 2022
Increase in the know how of workers	Muhuri et al., 2019

The efficiency of the NPD (New Product Development) and manufacturing processes is considered a strategic response to the operations-based challenges posed by innovative processes implemented by companies competing in current contexts. In fact, operations-based challenges cover the efficiency of the product development and manufacturing processes and focus suppliers' efforts on business re-engineering in several ways including automation, research and development, production efficiency, and human resources initiatives (those aimed at increasing worker productivity).

In managerial literature, some studies suggest that there is a positive association between the innovativeness of firms and their subsequent competitive performance; however, other empirical studies show a mix of competitive situations, sometimes evaluated with parameters from which contradictory results emerge, and above all with 'reliable' validity in short, or, conversely, medium-long time spans (Audretsch *et al.* 2011; Rosenbusch *et al.*, 2011).

The emergence of disruptive technological innovation impacts on the performance of manufacturing firms (Hughes *et al.*, 2022), in the sense that allowed productive flexibility adoption and has driven operational effectiveness, and on the management of human resources (human resources decentralized decision-making) (Muhuri *et al.*, 2019).

The intelligent manufacturing technology appears very useful in increasing premature negatives, large-scale production reconfiguration and facilitates rapid design and engineering production change validation (Qi and Tao, 2018).

The technological initiatives that increase the size of the digital part and have a positive impact on the surrounding economic context seem useful (Rüßmann *et al.*, 2015). Although little studied, it is how manufacturing digitalization projects affect manufacturing performance (Felsberger *et al.*, 2022). Performance management is a firm governance essential mechanism through which to provide information to decision-makers and to monitor the formulated strategic path.

More specifically, this study conceptualizes product returns information as a source for continuous incremental learning and explores its viability from the dynamic capability's perspective, considering the novelty of this topic, both in practice and in research (Ritola *et al.*, 2022).

It is found that the forms of research-based cooperation through the use of open innovation are governed by weak ties (contract - network) and also that, as stated in the managerial literature, open innovation amplifies the knowledge gap in international supply chain. However, the greater the knowledge gap, the greater the opportunities for manufacturing companies, finding this advantage also for Italian MSFs.

The reticular form of the innovative interactions studied show how radical technological innovation requires new business models to support the implementation and the industrial application of those innovation.

Crowdsourcing represents an unfamiliar evolutive technological path for most firms, especially for those of medium-small size, having limited experience with these platforms.

During the empirical survey, it was noted that, especially in recent years, medium-sized manufacturing firms belonging to a supply chain formulate strategies that make them variously interdependent with different supply chain stages.

Medium sized firms (MSFs) operating in international business markets become economic actors in stages complementary to those to which they traditionally belong and are consequently included in interdependent "supply chains".

The MSFs therefore open up to the beneficial effects on innovative business processes (growth of technological assets, experimentation with new frontiers of information technologies) and on market performance (micro-segmentation of international business markets, leadership in market shares), generated by the multiple buyer-supplier relationships in which they operate.

The ability to engage in the production and co-development of product-processes innovative strategies determines one's vertical and horizontal positioning in the international offering structure.

Finally, it emerges that in the Italian innovative MSFs, precisely in the operation area, a knowledge system is established that makes use of a manufactured-based R&D activity. It is found that the knowledge system settled in the operation area and the applied research activities are the basis of the ability of not large creative companies to prefer open innovative phenomena that are radically new.

Regarding the criticality for the future, it can be observed that there is a false ambidexterity of the transactional and relational study approaches (or partnership relations): both approaches (I believe we are referring to relational-TCE and network analysis) allow us to verify how they are in today's modern reality focused on creating value for the entire supply chain affected by open innovation phenomena. As for the third way, the myopia network must be avoided. Since transactions have evolved today: on the 'supply side', contractual relationships take place within a network of potential innovative relationships that involve start-ups, innovation communities, young and competitive companies in new sectors, etc. it is clear that transactional relationships are not to be considered as traditional methods of regulating supply chain relationships characterized by consolidated or even mature technologies. Moreover, if a company competes mainly on product-service innovation, the type of relationship could depend on where the innovation is expected to emerge: many types of innovations (and therefore technological assets) emerge outside the usual and close collaborations between suppliers and buyers.

Indeed, it is increasingly common for firms to gather innovative product design and innovative manufacturing redesign through the innovative business model implementation making use of the crowdsourcing. Limited attention is placed on understanding how firms can efficiently combine and

manage different crowdsourcing platforms (Ruiz and Beretta, 2021). More specifically, we know little about the challenges that firms face when implementing external knowledge through crowdsourcing phenomena. Crowdsourcing represents an unfamiliar evolutive technological path for most firms, especially for those of medium-small size, having limited experience with these platforms. The use of these platforms requires firms to reengineer business product-processes and to undertake new technological paths. Given these attributes, open and collaborative innovation projects can be conceptualized as a particular type of open innovation where the innovation processes are open along up stream supply chain and innovation outcome is achieved by the individual players in the supply chain which ends up increasing the value generated within of the supply chain (it is assumed, even if it is not the subject of this study, that end-to-end operators can also be benefited) (Badway, 2011; Huizing, 2011).

5. FINDINGS

The originality of the paper is the attention paid to modern and unusual innovative shedding new light processes on the success factors in modern competitive contexts increasingly anchored to integrated and relational relationships (of relationships) in the supply chains.

Following the research results obtained, it emerges that buyers-suppliers integration, developing relational skills, favor the profitable circulation of information, which is the basis of cooperation based on mutual trust. Such a strong degree of integration determines the reduction of conflicts and the formation of relational revenues. The integration of supply chain operators or supply chain integration (SCI) is made possible by the ability of firms to cooperate with "critical suppliers and customers" and more and more forms of cooperation between enterprises involve business managers (intra-organizational collaboration), managers of different firms belonging to the same group or to the same multinational (co-operation between home-mother and subsidiary), and managers of completely autonomous firms (inter-organizational cooperation).

Firms utilize relationships for competitive advantage by accessing, integrating, and leveraging external resources (relationships are relevant across a myriad of relationship forms, including alliances, joint ventures, supply agreements, cross-sector partnerships, networks).

In practice, the birth of these relationships requires the formation of new relational assets that are the basis of the ability of firms to reposition themselves in the new structures of the offer or supply chain: they are perhaps even more important than those relational assets, traditionally dedicated to maintaining consolidated relationships, as well as identifying and planning new ones.

Since transactions have evolved today: on the 'supply side', contractual relationships take place within a network of potential innovative relationships that involve start-ups, innovation communities, young

and competitive firms in new sectors, etc. it is clear that transactional relationships are not to be considered as traditional ways of regulating supply chain relationships characterized by consolidated or even mature technologies. Moreover, if a firm competes mainly on product-service innovation, the type of relationship could depend on where the innovation is expected to emerge: many types of innovations (and therefore technological assets) emerge outside the usual and close collaborations between suppliers and buyers. The efficiency of the NPD and manufacturing processes is considered a strategic response to the operations-based challenges posed by innovative processes implemented by companies competing in current contexts. In fact, operations-based challenges cover the efficiency of the product development and manufacturing processes and focus suppliers' efforts on business re-engineering in several ways including automation, research and development, production efficiency, and human resources initiatives (those aimed at increasing worker productivity).

6. RESEARCH IMPLICATIONS

This paper combines descriptive purposes with some cognitive principles on the 'new model types' of innovative processes that are open at the firm level and involving the reconfigurations of the global supply chains and are even inserted into the processes of creating new supply chains (sectors). The study has the merit of identifying new innovative paths that can profitably support the growth of medium sized enterprises. This fine-grained adopted approach has contributed in our opinion to conducting a more punctual investigation useful for understanding the development of new and non-familiar technological processes (production systems, products, business market's utilities, etc.).

This study, making use of abductive reasoning and empirical experiments, has expanded the consolidated theoretical framework, making it so useful to better interpret the modern operating and management methods of economic operators increasingly necessarily involved in innovative processes, concerning openness supply chains. The qualitative survey carried out highlights how the performance of single companies in the supply chain are strongly interrelated with the performance of the entire supply chain, essentially outlined as creation of value-increase in value at the entire supply chain level. The finding pertaining to the higher performance and spillovers economic effects of new innovative processes involving companies in exploratory innovative processes helps us to better understand the predisposition to modern open innovation phenomena and provides a much-needed empirical support though the research is based on an anecdotal evidence or case studies.

Recognizing the potential implications of firm knowledge resources in deciding the supply chain implementation of exploratory (or disruptive) types of open innovation and the important role of network ties in developing unfamiliar external knowledge that is necessary for successful innovate

processes, we showed that supply chain network ties indeed lessened the potential negative impacts of too much newness pertaining to exploring new knowledge.

Il 'network-based approach' adds a new perspective to the rich mechanisms that earlier studies have offered to resolve the paradox pertaining to deciding between implementing new innovative processes that exploit a focal firm's current knowledge resources and developing new innovative paths that are new to the economic actors belonging to open supply chain.

In addition, the differential results regarding the network ties with supplier contribute to more detailed (or explanatory) understanding of the potential implications developing unfamiliar and unusual innovative processes ad as a result to a better identification of the necessary knowledge to develop them. This finer-grained approach not only contributes to our better understanding of the redesign of innovative supply chain that become more openness, but also provides empirical evidence about the importance of differentiating both the types of supply chain knowledge and the types of network ties.

7. MANAGERIAL IMPLICATIONS

A contribution at the new innovative supply chain relationships toolbox building was developed.

This study informs managers that better performances of innovative processes derive from innovative processes of the open type in modern supply chains.

In fact, innovative processes considerably increase their characteristic of being exploratory, without suffering the negative aspects: as we know, exploratory types of innovative processe can lead firms to commit their resources, almost always scarce, to long-term projects with minimal mediate return (March, 1991; Ozer and Tang, 2019). Furthermore, this research shows how firms can manage the trade of between opportunity and tension through establishing network ties with other firms, innovative economic operators, Institutions, etc .: establishing network ties with suppliers can help the supply chain's economic actors access additional technological knowledge and likewise to reduce the potential negative impacts of too much unfamiliar technological paths, often within a portfolio of technological paths that is increasingly diversified.

8. FURTHER RESEARCH FIELDS

A further field of research analysis is also to understand how the current innovative phenomena (production re-engineering, digitalization, etc.) generate business strategies that lead to the reconfiguration of supply chain business models that have the form of open innovation networks. Indeed, supply repositioning suggests that there might be open relationships in innovative and recently established international production chains.

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A REVIEW OF THE DIGITAL CONTENT OF THE COSMETICS SECTOR: EVOLUTION, TRENDS AND COVID-19

Marrugo-Salas, Lina

School of Business, Universidad Tecnológica de Bolívar, Cartagena, Colombia.

ABSTRACT

Social networks allow companies to reach global audiences, connect with their customers, promote their brands and drive greater purchase intention. YouTube is the second-largest social network platform, with the highest number of active and popular users worldwide. The digital evolution of the audiovisual content generated by brands in Colombia's cosmetic sector and promoted through the YouTube platform before and during the COVID-19 pandemic was analysed. This mixed study analysed, through qualitative and quantitative techniques, a total of 2,284 videos available on the YouTube channels of the eight brands with the largest market share from their inception until the end of 2021. Among the most important findings is the fact that most brands saw a significant increase in videos published and views during the pandemic. However, half of the brands analysed are not taking advantage of the potential this platform has in regard to reinforcing their visibility. This study contributes to closing the current gaps in the literature and providing an understanding of the dynamics and how important the presence of companies in this sector is on YouTube.

Keywords: Cosmetics industry, digital marketing, pandemic, social media, YouTube

1. INTRODUCTION

Companies during the COVID-19 pandemic were forced to adapt their marketing materials and actions in response to it (Atkinson et al., 2020). In addition to understanding the dynamics and importance of their presence in social networks, they have proven that creating content is much easier, faster and cheaper. Users can follow accounts voluntarily, interact and share the information that is created, reaching a much wider audience.

Latin America is the region where users spend more hours a day on mobile social networks, which shows the commercial opportunities that companies in this region have if they use social networks. The YouTube video platform is the second largest social network with the highest number of active and popular users worldwide, and the second-most popular activity for online users was "watching a video clip or visiting a video-sharing site" (Statista, 2021a).

In the cosmetic sector, consumers are increasingly attracted to advertisements on YouTube and Instagram (Duh, 2021), and this interest influences their purchase intention and willingness to share information. In addition, the study confirmed the growing trend among millennial women.

Other studies (Poulis et al., 2019; Khan et al., 2019) have shown how content generated and marketing practices in social networks impact consumer brand awareness, brand loyalty, electronic word of mouth (eWOM) and purchase intention.

Based on the above context, it is necessary to know how companies are directing content to interact with their users, but first, it is important to explore how audiovisual content has evolved when the social network and video platform YouTube is chosen. Given that the COVID-19 pandemic is a phenomenon that generated profound social changes in many areas, this research conducted a comparative analysis of behaviour before and during the COVID-19 pandemic.

The cosmetic industry was chosen for convenience. However, it is important to mention a few things that make it attractive for this research. For example, the United Nations Industrial Development Organization showed that demand in this type of industry is very dynamic because consumers are increasingly concerned about their well-being and image (UNIDO, 2015).

Once the social network and the industry under study were chosen, the research question was defined: *How has the audiovisual content of the cosmetic industry evolved on YouTube before and during the COVID-19 pandemic? What are the characteristics of the audiovisual content being generated?*

This study contributed to closing the knowledge gaps since, according to the systematic review of the literature by Frade et al. (2021), there is a lack of knowledge about advertising on video platforms such as YouTube. Likewise, another novelty of this research is that it compiles an inventory of all the videos available in the video platform (the population universe rather than a sample is used) of the main brands and companies that have the largest market share in Colombia, that is, eight brands and 2,284 videos.

This study is unlike most studies, which only take a sample of videos from the cosmetic sector (Castelló-Martínez and Barrilero-Carpio, 2021) or studies that are carried out in other sectors such as mobile phones (Osorio et al., 2021) or take luxury fashion brands (Ramos-Serrano et al., 2022) or review the food channels (Dias & De Aguilar, 2020).

This study can be an initial and relevant guide for professionals in the cosmetic industry, in particular for content creators, advertising and marketing professionals, since it provides a holistic view of how the industry is operating in an important social network. This analysis is based on the companies with the largest market share in Colombia and can be taken as a benchmarking exercise (Costa-Sánchez, 2017) for companies that are entering or intend to do so in the region.

2. METHODOLOGY

To answer the research question, this mixed exploratory and descriptive study was structured, from the quantitative approach, the patterns found in the videos hosted on YouTube were analysed. With the objective of choosing who would be the representative companies of this sector, the involvement of companies and brands of the cosmetic sector “beauty and personal care”, under the category “Colour Cosmetics” in Colombia was reviewed through the data provided by Euromonitor in 2019. Colour cosmetics are the most common category of beauty products in videos (Castelló-Martínez and Barrilero-Carpio, 2021).

Next, the availability of accounts on the YouTube platform of all brands targeting the national market and in Spanish was identified, and this inventory was carried out manually and transferred to a spreadsheet. For each brand (company), the name of the YouTube channel, the date of channel creation, the channel link, the number of subscribers and the number of total views were extracted. This information was provided directly by YouTube.

With respect to the analysis of the YouTube channels of the brands, the “about” section was reviewed, which contains the channel description, links to other social networks and stats.

After this, the first eight brands with the largest market share were selected to be the study sample: Vogue, Avon, Yanbal, Esika, Natura, Maybelline, Masglo and Jolie de Vogue. Three of these companies are part of the L’Oreal group, the world’s leading manufacturer of beauty products (Statista, 2021b). In addition, during the development of the investigation, it was discovered that Natura bought Avon, becoming the fourth largest beauty firm in the world (Forbes, 2020).

All of the above provides information on the behaviour of social networks of global companies in emerging markets such as Colombia. Another interesting characteristic of these selected brands is that most of them are recognized because they are offered through “direct sale by catalogue”. This distribution format is characteristic not only of Colombia but also of Latin America in general (Instituto Español de Comercio Exterior, 2004).

Subsequently, the inventory of all the videos hosted on YouTube of the selected brands was carried out, which was transferred to a database in an Excel spreadsheet. The count of videos as of December 31, 2021, gave a total of 2284 videos. First, the database was built manually, then later with the goal of ensuring that there were no errors and greater scientific rigor, a Python code was developed with the aid of a programmer that automatically extracted this database from YouTube.

For the analysis of the quantitative variables, dynamic Microsoft Excel tables were used, performing univariate analysis by frequency and mean values. Descriptive statistics were provided (minimum, maximum). Video length was grouped into seven ranges for a better analysis.

#	Brand (company) [YouTube account name]	YouTube page	Number of videos on YouTube	Number of subscribers on YouTube (end of 2021)
1	Vogue (L'Oréal Groupe) [Vogue Cosmetics Colombia]	https://www.youtube.com/channel/UCiJ80RLIT7uUrT9a_sWB3Sw	48	5.070
2	Avon (Avon Products Inc) [Avon Colombia]	https://www.youtube.com/user/avoncolombia	815	35.600
3	Yanbal (Unique- Yanbal Group) [Yanbal]	https://www.youtube.com/c/Yanbal-CanalOficial	269	146.000
4	Esika (Belcorp Corporation) [Esika]	https://www.youtube.com/user/EsikaVideos	553	114.000
5	Natura (Natura & Co) [Natura Colombia]	https://www.youtube.com/user/NaturaCoOficial	302	35.300
6	Maybelline (L'Oréal Groupe) [Maybelline New York Colombia]	https://www.youtube.com/channel/UCiUvin-o7XENXb2jB3DraEg	17	Does not record
7	Masglo (Cerescos Ltda) [Official MASGLO]	https://www.youtube.com/user/MASGLOOficial	246	59.900
8	Jolie de Vogue (L'Oréal Groupe) [Jolie de Vogue Colombia]	https://www.youtube.com/user/cosmeticosJolie	48	872
1. Joined YouTube 23 Aug 2016; 2. Joined 16 Sep 2009; 3. Joined 13 Mar 2014; 4. Joined 11 May 2009; 5. Joined 1 Apr 2011; 6. Joined 13 Mar 2015; 7. Joined 25 Oct 2011; 8. Joined 6 Dec 2012.			[287] Mean, [258] Median of the videos by brand) [56.677] Mean, [35.600] Median of subscribers by brand. Total observations: 2284	

Table 1. Characterization of brands in the cosmetic sector. Source: The author

At the qualitative level, this work is framed within the guidelines of the grounded theory approach (Lúquez, 2016). Given that the variable “name of the video” is qualitative, the open coding method was used, which proposes dividing and coding the data into concepts and categories. This was done inductively, grouping the most frequently repeated words within a set of categories to identify attributes or inherent characteristics. The text mining technique was used with PowerBi software to identify the most repeated words within the name of the videos.

3. RESULTS

Number of videos and subscribers by brand

Of the selected brands, 2,284 videos were extracted. Avon has the largest number of videos on its YouTube channel, followed by Esika, both of which account for 60% of the videos in the inventory (see Figure 1). Maybelline Colombia uploads the fewest videos in its channel, as shown in Table 1.

All of the above makes sense since Avon was the first brand to start on YouTube, with content found since 2009, a few months later Esika joined and only two years later, in 2011 two more brands were added. The last brand to join YouTube was Vogue in 2016, but it did not have videos until 2019.

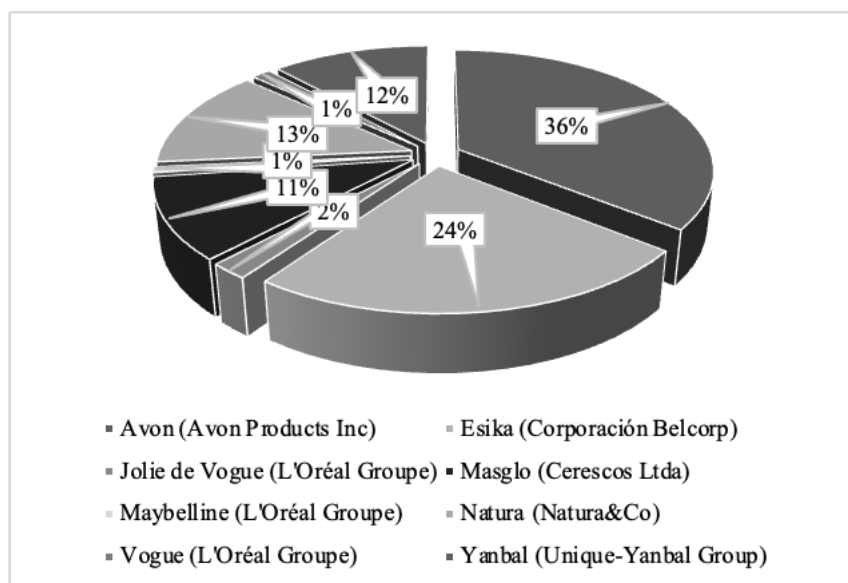


Figure 1. Percentage of videos by brand of the total sample. Source: The author

However, if the analysis is done in terms of the number of subscribers, Yanbal takes the lead, followed by Esika. This is because in the case of these brands, they have decided not to have an account per country—unlike the rest—but instead covering all Latin American markets where they arrive in Spanish. Note that the Yanbal Colombia channel existed but was closed in 2020.

However, if we ignored these two brands, Masglo would be the Colombian channel with the highest number of subscribers, followed by Avon. By far, Vogue's Jolie has the fewest subscribers, with only 872 compared to the average number of brand subscribers. The average values of the number of videos and subscribers are described in Table 1.

In parallel, the online software socialblade.com was used to complement the results obtained. This is a simplified analysis tool on user statistics of different social networks, as well as YouTube channels

(Suing et al., 2019). It was interesting to learn about this tool, and the analyses provided for the peak month where the brands had the highest subscribers between January 2019 and January 2022 during the pandemic.

For Yanbal, the highest peak was in March 2020. In the case of Esika, it was in November 2020. Masglo was in August 2021. In the case of Vogue, it was in April 2020. The case of Jolie de Vogue peaks peaked twice, in January and April 2019. In the case of Natura, it was in January 2021. Of all the brands mentioned, the trend of subscribers in the period was quite variable. For Avon, the highest peak was in August 2019, and the rest of the months had a uniform trend. In summary, during the COVID-19 pandemic, most brands obtained their greatest number of subscribers.

Brand channels

Regarding the channel description, overall, brands provide a description of what they offer and what they share in their channel, in some cases, information about the founding company. Fifty percent of the brands do not exceed the two lines in the description of the channel (Jolie de Vogue, Maybelline, Yanbal, Vogue). The other 50% strive to provide users with the greatest amount of possible information of what they will discover in their channels.

In some cases, they capture information about and for their interest groups as an exercise of corporate social responsibility (Costa-Sánchez, 2017), such as the cases of four brands in Table 2 that include messages describing their commitment to the environment, commitment to gender equality and female empowerment, as an exercise with their clients and society in general, the benefits offered to their consultants that are in their supply chain.

The source of information from which the text was extracted was YouTube, which was found in the brand's channel description.

Brand	Stakeholder	Excerpt from the description in the channel
Avon Colombia	Consultants	"You will see videos in which our star representatives explain the wonder of being an Avon representative, how they came to be part of the Avon Colombia Privileges Club and the benefits they now enjoy. Live with them behind the scenes!"
Natura	Environment Society	"We signed our commitment to the Amazon to conserve nature, develop people, value culture and care for the planet. After all, there is no jungle left standing if we remain seated. We also offer the maximum, using the minimum and reducing excesses. We use materials of renewable or recycled origin, in addition to refills for our products for more than 30 years." "Diversity and education are plural causes of all of us. Therefore, we seek to include people through projects focused on education, along with initiatives and campaigns that value diversity".

Masglo	Clients and society	"MASGLO encourages women to project themselves and freely express their identity, independence and confidence."
Esika	Clients and society	"It is the brand that best knows women, understands them and accompanies them in their multiple roles"

Table 2. Description of the channels. Source: The author

In parallel, the online tool socialblade.com (used in the study by Vargas et al., 2020) was used to complement the results obtained. It was interesting to learn about this tool and the message in the main image of the channels, which were analysed and transferred to Table 3.

It was observed that this space is used for launching new products in their characteristic shades or to promote existing ones as taught in most brands. The models presented are women.

Brand	Message in the main image	Analysis
Avon	"Look again, we are ready to pass all the tests"	1. Colour: blue 2. Content: three women of different ages posing and smiling.
Esika	"Millions of women choose esika"	1. Colour: red 2. Content: a red-tinted collage of images of women of all types showing different parts of their face and smiling. In some cases, applying different types of makeup.
Yanbal	"Yanbal"	1. Colour: various 2. Content: six pictures with products from left to right: an anti-ageing cream, some earrings, a line of lipsticks, a perfume, a body lotion, Yanbal brand.
Jolie from Vogue	"#Elpoderdetumirada" (#Thepowerofyourgaze)	1. Colour: red, white and black. 2. Content: a model showing only her gaze with a popular eyeliner, on her right is 4-looks-in-1 eyeliner
Masglo	"The woman behind this screen inspires us with her vitality #lavidateespera" (life awaits you).	1. Colour: pastels, various light and dark violet tones. 2. Content: a model posing with her nails painted, at her left an orchid flower, at her right four nail polishes from four collection shades. Two seals showing that the products have not been tested on animals and are free of 12 toxic components.
Vogue	Eyelashes lifted and full of volume	1. Colour: black and purple 2. Content: a model applying mascara waterproof up to 36 hours.
Natura	"Every day is the day to refresh and moisturize your skin"	1. Colour: unicolour (peach) 2. Content: image of various pink mango products (soap, body oil, cream and splash)

Table 3. Main image of the channels. Source: The author

Evolution of the videos by brand

According to the inventory of total videos, there is a general trend towards an increase in the number of videos added per year, with showing erratic up and down behaviour until 2019, after which, brands

register an increase in the number of videos and maintain this trend -except for Jolie de Vogue, which had stopped adding videos since 2017.

There are several indications that may explain why this phenomenon may be associated with the COVID-19 pandemic and the importance that digital media acquired. Compared to the rest of the years, 2020 and 2021 were the years in which the brands in total published the most videos (for a total of 361 and 497, respectively, increasing by 43% and 38% compared to other years).

For most brands, there was an increase in the number of videos published during the pandemic. For this, the date added was taken as a reference, and the videos “before the pandemic” were considered those generated before 2020, that is, until 2019. The “during the pandemic” publications were generated in 2020 and 2021.

The year in which the largest number of videos was generated for most brands was 2021, with the exception of Erika, which was in 2020. This allows us to conclude that the increase in videos on YouTube reached its peak during the pandemic.

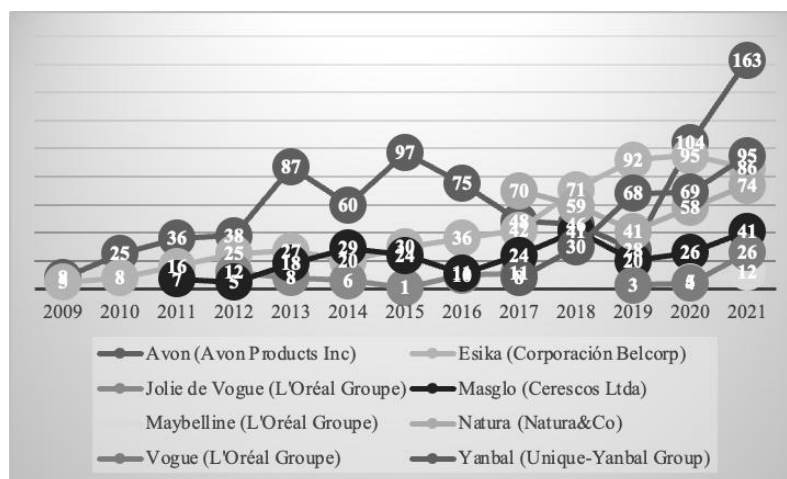


Figure 2. Evolution of the total number of videos by year and by brand. Source: The author.

Figure 3 shows the count of videos per month, adding the sum of the total videos into inventory. This data is then analysed by brand and the months in which the brands added the most content.

The most repeated month in most brands (5) is the month of October, so in summary, it is the month in which the brands of the cosmetic industry publish more videos.

The results obtained are not conclusive, but it was noted that the months where there are more videos corresponds to seasons that are important for this industry. For example: Christmas in December; Halloween in October; love and friendship in September; Mother's Day in May. This analysis will be repeated later for the names of the videos.

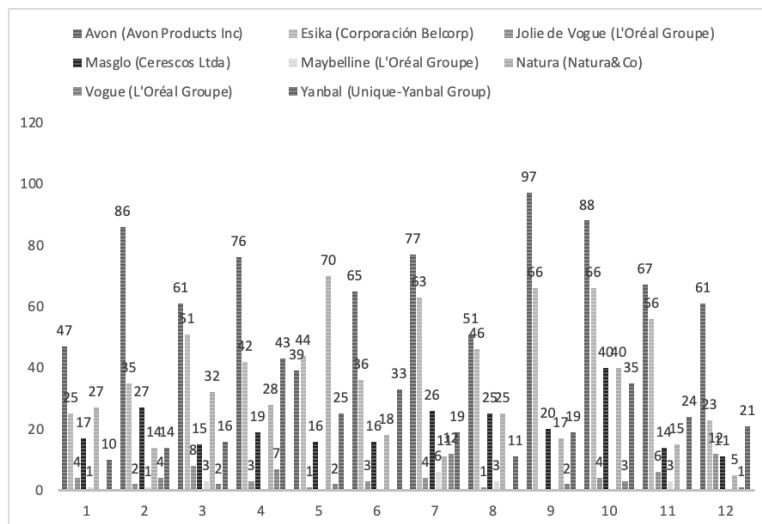


Figure 3. Evolution of videos by month and by brand. Source: The author

Views and video length

The effectiveness of any advertising depends on the extent to which the advertising message has been received and accepted by the audience (Gupta et al., 2016), which can be explored initially with the number of video views, since it reveals the attraction of the audience and public attention.

From the inventory, it can be seen that the video with the fewest views is 31, and the video with the most exceeds 65 million views. Of the videos that have the highest number of views on YouTube, 100% are Esika. The views of these videos range between 10 and 65 million views. The oldest video is from August 2018 (before the COVID-19 pandemic) and ranks second in views, while the most recent video is from July 2021 (during the COVID-19 pandemic) and ranks first in views.

It is inferred that one of the reasons why this number is high is because brands pay to promote their ads on YouTube. Well, it was found that the videos names are mainly focused on advertising new products (since in 6 videos this word was repeated) but also their product lines (See Table 5).

The exception is the video “Esika: My expression, my choice”, which addresses the importance of combating gender stereotypes and promoting the empowerment of women, which can attract more attention from users for its message.

Regarding length, the literature shows that time is an essential factor to consider when evaluating the effectiveness of advertisements for a population of consumers (Nettelhorst et al., 2020). Exploring alternative videos lasting between 6 and 15 seconds—just as an example of a range—are used to better compete for consumers’ attention; however, the authors argue that the ideal ad length depends on the specific goals or objectives of the source, although time should not be abused. In this sense, ad length of the most viewed videos in the entire inventory ranges between 11 and 30 seconds, which is in line with Nettelhorst et al. (2020).

However, it is important to extrapolate these results to the entire universe of videos (2,284). Therefore, the videos are grouped into different length ranges. Of the total videos, the largest proportion, that is,

50% of the videos, last less than one minute and 41% between one minute and five minutes, which shows brand's preference for shorter videos.

From the dynamic table, it was also possible to extract the most frequent video lengths: 108 videos lasted 15 seconds, 100 videos lasted 20 seconds and 98 videos lasted 30 seconds. Therefore, 15 seconds, 20 seconds and 30 seconds are the lengths for which more videos are found, not taking the ranges into account, only the duration time.

The videos with the greatest number of views for each brand on their YouTube channel were also selected and organized in descending order. Once again, Esika is the leading brand, followed very far by Avon and Natura. These videos were added between 2017 and 2021, and 50% of them were added during the COVID-19 pandemic.

Table 6 also shows the "likes" and the number of comments. In the first case, Esika and Natura lead quite clearly compared to the rest. In the second case, Masglo has the most comments, followed by Natura and Esika.

The average length of the videos was 27 seconds. These videos generally announced the launch of some of their products, with the exception of two brands. Yanbal produced a tutorial with a vlogger to "define perfect eyebrows", which confirms what was mentioned by Hou (2018) regarding the types of strategies used to generate traffic. Jolie de Vogue made a video to honour moms, which supports what was mentioned by Wendt et al. (2016) who suggested that viral videos generate more attention than videos that directly advertise products.

Name of the videos

Regarding the word analysis of the names of the videos, the PowerBI Tag Cloud tool was used, the most repeated words were categorized, providing a more precise analysis for identifying how brands determine the name of the videos. The results are shown in Table 7.

Companies in the cosmetic sector use their brand constantly in the name of their advertising videos, not only to create brand awareness and recall but also to be easily found by the user. Similarly, they refer to the type of product offered and in which part of the body it is used.

An interesting finding is the call to action brands employ so that users will use their products (*how, know, discover, learn, join* are just some examples) which can undoubtedly be used as a reference for content creators in the cosmetic sector.

Category	Word (Number of repetitions)
Brand positioning and product line	- Avon (312); Esika (257); Natura (245); Masglo (170); Yanbal (119); Vogue (31); Jolie (19); Maybelline (16) - Ekos (33); Colorfix (31); All-day (31); Cronos (27) NailArt (18); Hydracolour (16); EsikaPro (15)
Type of product offered and part of the body applied.	- Makeup (197); Perfume (56); Lipstick (53); Mascara (38); Gel (33); Foundation (25); Cosmetics (23) Perfume (42); Eyeliner (10); Nail polish (8) - Facial (61); Eyes (48); Skin (43); Rostros (40); Look (24); Lips (29); Nails (28); Eyelashes (19); Eyebrows (19); Manicure (8)
Feminine beauty	Look (172); Beauty (72); Woman (27); Natural (23); Care (16); Sensual (13); Perfect (10); Style (10)
Advertising aimed at the female audience and empowerment	Woman (27); Power (25); MipoderEsSer (15); Believe (15); Unique (11); Perfect (10) Independent (9) Natural (23)
Format of the contents of the videos	Tutorial (123); Tips (49); Routine (27); Campaign (21); Story (15); Class (12); Coach (10); Video (9); MasterClass (9); Secrets (9)
Reference to geographic location	Colombia (33); World (25)
Call to action to use their products	How (151); Know (53); Discover (42); Learn (38); Join, You are
Novelty or product launch	New [Nueva] (69); New [Nuevo] (50)
Reference to a publication day	Friday (20)
Reference to special dates	Love; Christmas (62); Halloween (18)

Table 4. Open coding of the name of the videos on YouTube. Source: The author

Content related to the COVID-19 pandemic

The brands of the cosmetic sector were not left behind when the COVID-19 pandemic hit, since they also had the responsibility of informing and connecting with their users in truly difficult months for humanity. A clear example was the hashtag used by Avon #juntosenladistancia (#togetherindistance) that sought to motivate people, who, despite the distance, promoted mutual care and help. They also broadcasted live to train their promoters in sales through online channels and social networks.

Esika, for its part, incorporated a very characteristic yet differentiating video from other videos, called "Today, I choose to give thanks", praising the work of health professionals in the midst of the pandemic, and "Today, we choose to be strong", aimed at its users to counteract the negative effects of the COVID-19 pandemic.

Yanbal conducted live broadcasts lasting more than one hour where professionals in marketing, leadership and communication explained ways of managing businesses in times of pandemic.

Finally, Natura was recognized for their video called “Natura | Each person matters”, briefly explaining what health measures the company was taking towards its stakeholders.

4. DISCUSSION

With the growing popularity of the use of social networks as platforms for marketing products and services, there is a need to know the characteristics of the content generated by companies. The contributions of this research are reflected by the fact that it is a study which can reveal the evolution of audiovisual content on a digital platform like YouTube for the cosmetics industry in emerging markets, taking as a sample the world’s leading “beauty” companies.

Of the eight selected, five are global brands, with three of them being part of the L’Oreal group, the leading manufacturer of beauty products worldwide (Statista, 2021b) and two of them (Natura and Avon) being the fourth largest beauty firm in the world (Forbes, 2020), which lets us know the behaviour of leading global brands in emerging markets such as Colombia. This research also provides a comparative view of the behaviour of the videos for each variable analysed before and during the pandemic.

Overall, this study shows that the majority of companies in Colombia’s cosmetic sector use YouTube as a platform for creating and sharing audiovisual content with their interest groups. This is similar to what was proposed by Castelló-Martínez and Barrilero-Carpio (2021), who claim that of the sectors using YouTube as a platform, the beauty sector is prominent. In this regard, it was found after reviewing the list of all brands provided by Euromonitor (2019) that 80% use the YouTube platform, which has a large audience and great potential for sharing content. Therefore, these results can be useful when developing strategies for the design and dissemination of videos by companies in the sector based on a market study of their competition.

With respect to variability in terms of content volume and subscriber numbers, it was possible to identify that in most brands, there was an increase in the number of videos published during the pandemic. In addition, it was evident that most brands gained a greater number of subscribers during this health crisis.

In terms of video length, in general, brands in the cosmetics sector tends to prefer uploading short videos to YouTube. More than half of the universe of videos lasts less than a minute. These results reaffirm what has been reported by other studies in relation to YouTube videos (Osorio et al., 2021; Nettelhorst et al., 2020).

In fact, Osorio et al. (2021) recommend designing short videos, since it was indicated that longer videos decrease the rate of shares they get. Nettelhorst and others (2020) argue that the ideal ad length depends on the specific goals or objectives of the source; thus, these can be focused on (1) attracting consumer's attention, (2) exposure (i.e., click rates, conversation rates and video completion), and (3) the brand (i.e., brand preference) or on persuasion (i.e., purchase intention).

This research identified several opportunities for some brands, noting a lack of detail in the description of the channels of the brands. It is recommended that 50% of the brands take advantage of these spaces to connect with the different interest groups since they are wasting the great potential for visibility that having a YouTube channel offers.

This study also shows how brands in Colombia's cosmetic sector in Colombia lean towards inclusive advertising, which was found in the channel description of some brands, in some of the central images of the channels in others, and in keywords used in the video names. In this sense, there is a growing development of research on inclusive advertising, known as *femvertising* (Feng et al., 2020; Varghese & Kumar, 2020), showing that the advertising style that highlights the talents of women, which aims messages in favour of women and counteracting stereotypes, is on the rise.

5. CONCLUSIONS

This research has shown how the digital content of eight brands of the cosmetic sector—Beauty and personal care—in the “Colour Cosmetics” category in Colombia has evolved. It has been learned how recognized brands are using this platform to advertise their products, capturing the attention and interest of their interest groups.

YouTube, as a platform, is attractive to both content creators and companies due to its potential to rapidly disseminate digital content (Susarla et al., 2012). The brands recorded a significant increase in the number of videos published during the health crisis, and at that time, they recorded the highest number of videos hosted and views. This is justified given the conditions in which humanity was living due to isolation where the use of digital platforms increased.

This study coded the words used in the name of the videos, which serves as a reference to content creators on YouTube for this sector.

This study has its limitations, since only eight brands were chosen, of the total brands that have market share in Colombia, according to Euromonitor in 2019, although those chosen were those with the highest share. This research does not intend to generalize its results, only to contribute to the literature on the evolution of audiovisual content; therefore, it serves as a reference for academics, industry professionals, content creators, and marketing professionals, among others, who want to understand the behaviour of brands on YouTube.

In the review of the literature in Scopus and Web of Science, the author did not find references to specific research in this sector in an emerging market such as Colombia; however, two of the brands chosen, whose YouTube channel is in Spanish, are aimed at the other Latin American countries, so this research may be relevant for these countries.

Of course, the author suggests future opportunities that connect with the results of this research, such as, for example, the effects on users that can be examined from the content analysis of comments and whether this has translated into greater purchasing behaviour.

The consumer profile and its relationship with online purchases can also be analysed (Sánchez-Torres et al., 2019). Or exploring new lines of research in the literature such as *Femvertising*. In fact, studies (Feng et al., 2010; Varguese and Kumar, 2020) have proposed as future research a follow-up experiment to test the influence of the main comments on the opinions of YouTube viewers towards female advertising.

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APPLICATION OF ARTIFICIAL INTELLIGENCE IN STRATEGIC MARKETING DECISION-MAKING PROCESSES

Mauz, Maria, Viktoria¹; Mendez-Cordero, Gilberto²; De Carli, Massimiliano¹; Michael,
Neubert¹

¹United International Business School, UIBS, Zürich, Switzerland

²United International Business School, UIBS, Tokyo, Japan

ABSTRACT

This paper explores the perceptions of using artificial intelligence (AI) for strategic marketing decision-making processes. The qualitative research study uses a multiple case approach method. Data is collected through subject matter experts (SME) interviews and use cases to identify the main themes on how humans are using AI to make better strategic marketing decisions. The data analysis identified four main themes: efficiency, quality, trust issues and limitations, and big data analysis for prediction. Further, it has been examined whether these themes can be found in the use cases related to marketing. With the data triangulation, the result of the research suggests that AI is well accepted as a tool to support the strategic decision-making process in marketing and may support humans by making strategic decisions. For instance, by identifying patterns through big data. However, although AI would be technically capable to do so, humans seemingly do not want to let AI make decisions completely autonomously without the possibility of a human's final judgment. The findings additionally suggest that AI is rather used to support the strategic decision-making process than make the decision itself. This implies that AI is less about replacing humans in practice but about enhancing the decision-making process. Further, the paper suggests that AI can support humans with making better decisions by also predicting future scenarios considering the effects of a potential decision.

Keywords: Artificial intelligence, strategic decision-making, marketing decision, competitive intelligence.

1. INTRODUCTION

Drastic changes in technology over the past few years have triggered the adoption of digital systems that have changed our modus operandi. According to Microsoft and Accenture, 80% of marketing leaders believe AI will impact marketing in the next three years, with 84% of 80% expecting that AI will help enable better workflow (IMM Graduate School, 2022). Furthermore, global marketing

automation spending will reach \$25 billion by 2023 (IMM Graduate School, 2022). In an online survey done by the McKinsey Group, 1843 organizations were asked about their adoption of AI. Of those respondents, 1013 said their organizations had adopted AI in at least one function (McKinsey Group, 2021). Due to advancements in technology and the vast amount of consumers' data available to firms, AI is becoming necessary for companies to remain competitive in the current landscape.

The aim of this paper is to determine how AI can contribute to making better strategic decisions in relation to marketing.

The research problem is that marketers often are unsure how to use AI on a strategic level to make better decisions and how AI can contribute to the decision-making process. Thus, this qualitative study aims to explore how AI is used in strategic decision-making processes to make better marketing decisions.

With the aim of closing the identified gap in the literature of Borges, Laurindo, Spinola, Goncalves, Mattos (2021) in terms of how AI can contribute to a strategic decision-making process. Moreover, a lack of research about AI in marketing strategic decision-making was identified by Stone, et al., (2020).

The introduction covers motivation and the necessity of why the research is required. The second chapter contains the conceptual framework and a literature review about AI in decision-making. The research methodology including the research method, sampling methods, the research question, data collection, and data analysis method will be described in chapter three. The results thereof will be presented in chapter four and discussed in chapter five by triangulating the data. The paper will conclude with chapter six, where the key findings and suggestions are illustrated.

2. CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW FRAMEWORK

Conceptual Framework

For this paper the conceptual framework is based on the Model by Colson (2019) and mentioned that AI-based decision-making processes require human involvement with non-digital data (Colson, 2019). This framework has been chosen to make full use of big data to achieve better business decisions by using AI technology (Sparrefors & Brodin, 2021). The following figure shows the Colson model, which illustrates the combination between AI and human judgment for making a business decision.

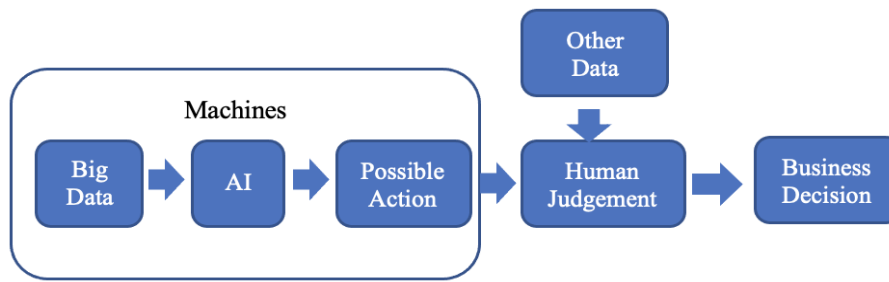


Figure 1: A decision-making model that combines the power of AI and human judgment (Source: Author inspired by Colson, 2019)

Broken down the process is demonstrated as follows: Big data is supplied to the AI algorithm. Subsequently this algorithm, trimmed to the needs and wants of the user, runs the data through it, coming to a conclusion for a possible action. Once the possible action has been defined by the conglomerate which represents the machine it is moved to the next part. The human takes the possible action from the machine and judges them with its additional, non-digital information (Miyamoto et al., 2021). Based on the judgment of the possible action, the human will then undergo the last step which is interconnecting the non-digital information (Fernandes, Jardim and Lopes, 2021). In this case the business decision based on AI can be made (Colson, 2019). This model has limitations as it does not consider deep learning factors as well as modifications to the AI algorithms, which oftentimes, cannot be done by individuals and may be tweaked (Lebovitz, Levina, & Lifshitz-Assaf, 2021). In the illustrated concept, AI is rather used to support humans in making business decisions instead of taking a decision by the machine itself (Colson, 2019).

Literature Research AI in strategic decision-making

The below presented literature review contemplates three main research streams: AI in strategic decision-making, AI in marketing, as well as risk and trust issues of using AI. Upon review of these papers, it has been criticized that the coexistence of AI and humans is vital to making better strategic decisions (Giuggioli & Pellegrini, 2022; Kaplan, 2021). AI has the ability to reveal a pattern within a big amount of data more efficiently and accurately than humans would be capable of (Eriksson, Bigi, and Bonera, 2020; Kraus, Feuerriegel & Oztekin, 2020). Furthermore, the paper of Shrestha, Ben-Menahem, and von Krogh (2019) states that merging the benefits of AI and humans optimally results in better organizational decision-making. The paper provides a foundation for understanding how people and algorithms can be effectively combined to make a decision by exploiting the gains to enable better decisions (Shrestha, et al., 2019). To introduce AI-based decisions to an organization, it is mentioned that it becomes relatively effective since a higher level of transparency can be achieved (Shrestha, et al., 2019). Jarrahi (2018) examines the complementarity of humans and AI, as each can have its own

strength in organizational decision-making processes. Hence, AI in a strategic context might rather be seen as decision support by engaging customers or employees in the decision-making process (Borges, et al., 2021; Giuggioli & Pellegrini, 2022). Duan, Edwards, and Dwivedi (2019) states that AI is accepted as a decision supporter and can help users make a better decision within its supporter role, such as AI detecting patterns in data sets and interpreting their meaning and correlation (Giuggioli & Pellegrini, 2022).

AI in Marketing Strategies.

In recent years the focus of AI in business started to shift from an operation point to strategic-decision making as technology continues to evolve (Davenport, Guha, Grewal, & Bressgott, 2020). With the use of technologies like Machine Learning, Deep Learning, and Natural Language Processing machines are trained to handle big data for the generation of market intelligence (Davenport, et al, 2020). This allows AI to automate business processes, learn insights from past data, and generate consumer and market insights through the program-based algorithm (Davenport, et al 2020; Eriksson, et al, 2020).

Particularly relevant research is the one of Huang & Rust, 2021, which conceptualizes AI technologies in three areas of intelligence for use in marketing strategies. First, 'Mechanical AI' is invented to speed up repetitive jobs and can help automate marketing tasks such as grouping techniques and identifying patterns to group customers and segment them (Huang & Rust, 2021). Second, 'Thinking AI' is designed to sort out and analyze data to arrive at new conclusions (Huang & Rust, 2021). Technologies utilized for Thinking AI include machine learning, neural networks, and deep learning (Lida, 2020). Thinking AI, for example, can assist marketing teams to choose the right target market and to make recommendations to marketing managers (Huang & Rust, 2021; see also Lida, 2020). Third, Feeling AI, designed for two-way interactions involving people, and/or for analyzing customer feelings and emotions (Huang & Rust, 2021; Paschen, Kietzmann & Kietzmann, 2019). These three AI technologies can improve marketing strategies such as the 4Ps of marketing (product, price, promotion, and place), and key strategic decisions segmentation, targeting, and positioning (Huang & Rust, 2021).

Trust issues with AI

AI being the core topic of what sits in the middle of the fourth industrial revolution has brought aspects with the topic which tend to be controversial (Schwab, 2017). Humans tend to build trust based on physical appearance, which is difficult given the fact that AI is based on different sorts of algorithms and programs (Cho & Hu, 2009; Duarte, Siegel, & Young, 2012). When looking at trust it is inevitable to see and understand that at the end of the day trust means letting oneself be vulnerable towards another party, just that AI does not take a physical face (Mayer, Davis, & Schoorman, 1995).

Throughout the past couple of years, AI has also gathered the reputation of being a human replacement technology (G. F. Davis, 2019). Interestingly, trust tends to build in a steep trend. There tends to be a direct correlation between the more information and know-how the robot or algorithm is fed, the more accurate the decisions will be taken (Glikson, Woolley, & Gramham, 2020). A study performed by Gombolay, et al. (2015) turned out that two groups of individuals doing a project, one being directed by a robot and one by a human, interestingly more trust was given to the robot in scheduling tasks and so-called “logistical” undertakings. Hence the degree of scheduling and or programming needed for a task may correlate with the trust in individuals (Gombolay, et al. 2015).

3. RESEARCH METHODOLOGY

The qualitative research study is based on a multiple case study approach to explore the perceptions of SME about how AI is used to make strategic decisions in marketing (Yin, 2018). A qualitative study has been chosen to collect data and information to develop an explanation and answer for the research question (Halkias & Neubert, 2020). A multiple case study with SME interviews and use cases are analyzed to understand the similarities and differences between each case (Yin, 2018). Furthermore, the evidence and reliability of a multiple-case study can clarify and validate the theoretical perspective (Halkias & Neubert, 2020). Meaning that current SMEs point of view and perceptions will be used to analyze how AI can enhance competitive intelligence for strategic marketing decision making.

Data was collected through a purposeful sampling with thirteen participants (p) (Merriam & Tisdell, 2016) to collect in depth rich data from different perspectives. After thirteen SME interviews, data saturation was achieved. The inclusion criteria for the SMEs to the research results are a) having a master's degree or higher and b) having knowledge about the application of AI in decision-making processes.

Additionally, nine use cases in relation to the topic will be studied to discuss and verify the themes. The nine case studies selected for this study were of companies around the world with the focus of AI in marketing decision making.

The following use cases are reviewed and considered as practical source of evidence:

Company	AI Implementation for Marketing Strategies	References
RedBallon	Uses AI to analyze internal and external (Big Data) to improve their ad strategies and to find new customers.	Kaput, 2018
Impossible Foods	Adapted AI to improve their branding, positioning and market entry strategies.	Sokolowski, n.d.

PrettyLittleThings	Uses AI to forecast customer preferences and to focus their advertising only on potential customers.	Taylor, 2021
Citrix	Uses AI to predict which marketing efforts will be successful.	Kaput, 2021
Deckers Brands Teva and Hoka	Uses AI for product creation and go to market processes.	Taylor, n.d.
BlueYonder	Uses AI to process big data for prediction on customer behavior and to personalize emails and offers.	Tjepkema, 2018
Amazon	Amazon is using AI to better understand its customers.	Li & Zang, 2021
Various Social media (Facebook, Instagram, Twitter, etc)	Marketers are using Big data to identify target audiences, predict future buying behavior and prospect new customers	Chaudhary, vAlam,, Al-Rakhmi, & Gumaei, 2021
Chinese Banks and real estate giants	Predict the need of building houses and credit allocated through consumer behavior. Regulate the demand and supply of houses in a just in time supply chain.	Li, Chi, Hao and Yu, 2016

Table 1: Overview of the use cases (Source: Author)

To answer the research questions, analysis of the SME interviews has been completed (Merriam & Tisdell, 2016). In order to point out the themes present in the data collected, a first manual inductive mixed coding cycle was used (Saldana, 2013). In the second step, a cross-case analysis is done to identify the themes in different case studies and to support the themes with practical evidence (Yin, 2018). The method of data triangulation is used to validate data with different sources of evidence (Stake, 2006). The themes found in the answers of the SMEs are confronted with the above-listed use cases to verify the collected data and themes regarding their transferability into practice and contribution to the conceptual framework.

In the next chapter, the results and findings of the data are presented.

4. RESULTS AND FINDINGS

This chapter will answer the main research question as well as the subsequent research question with the below illustrated themes.

Main research question: How is AI being used to make better strategic marketing decisions?

Theme 1: AI increases efficiency in decision-making

AI can help increase efficiency in decision-making by either supporting the decision-making process by recommending (p 9) adequate action proposals or scenarios or by directly making the decision itself. Using AI makes the decision-making process faster (p 1; p 5) and unstructured big data can be processed (p 7). Additionally, strategic decisions can be supported by providing alternatives or visualizing options as an output of AI (p 4). Furthermore, AI can save time (p 6) and make decisions

more efficiently (p 7) due to the fact that a huge amount of data can be processed simultaneously. Hence, it is proven that AI can assist humans (p 5) to make better decisions. In conjunction with complex decisions, “AI is less about replacement of humans but rather complementing human abilities” (p 4). Moreover, the potential of analyzing big data will be a relevant factor for firms to stay competitive (p 7).

Currently, firms are outsourcing AI services to automate their data analysis processes. This allows firms to save time and money by leveraging manual tasks to the AI tools. A case of particular interest comes from the company Red Balloon, an online marketplace for gifts and experiences. By implementing AI to their marketing strategy they were able to make their ad campaigns more efficient, saving 25% on marketing spending and improving their results by 30%, (Kaput, 2018). Furthermore thanks to AI the company has been able to find completely new potential customers interested in buying (Kaput, 2018). Naomi Simson, co-founder of Red Balloon explains how her company found “markets in the US and UK of people traveling to Australia that she didn’t even know she had” (Kaput, 2018). Another relevant use case is that of Impossible Foods. Their branding, positioning and market entry strategies have become more efficient thanks to AI and their ability to track social media trends and buzz in “real time” (Sokolowski, 2018). Ashley Geo, PR & Communications Specialist at Impossible Foods adds that by adapting AI to their marketing strategy, the company has been expanding quickly every month and they are able to “differentiate their content , and to determine what type of launch events would resonate best with each audience” (Sokolowski, 2018).

Theme 2: AI increases the quality of the decision-making process

AI increases the quality of the decision-making process because a bigger amount of data may be considered (p 1) whereas humans by themselves can only decide based on “a consolidated amount of data” (p 8). Increasing the amount of considered information reduces the risk of making a wrong decision (p 8) as more variables have been evaluated and considered for the decision. The possibility to identify risks by AI helps to make better-qualified and accurate decisions (p 9). AI can unveil an option, which humans might have overseen within the big data (p 5). Yet “the quality of the results depends on the provided data” (p 1). Due to AI, human errors can be significantly decreased (p 8). For example, lots of human workforces are focused on mechanical and repetitive tasks nowadays (p 7), which can be done errorless and more efficiently by AI technology.

All of the cases studied show an improvement in the quality of the decision-making process. For instance, PrettyLittleThing, a known fashion and lifestyle brand is using AI to make the customer experience as personal as possible. By using AI they identify potential customers and predict their

product preferences. With this approach, they ensure that they are only targeting potential customers with their advertisements. Due to AI, PrettyLittleThing could consequently increase the quality of the customized advertisement (Taylor, 2021). An additional case of interest comes from the company Impossible Foods. The firm has taken advantage of AI to improve their content differentiation and to make strategic decisions about the type of launch events that would resonate best with each target customers" (Sokolowski, 2018). Further, the company Deckers Brands, which owns the footwear brands Teva and Hoka uses AI to improve the product creation and go to market process. Here, AI is collecting data from target customers as input for making product development decisions. AI is helping to find opportunities and determining issues and complications (Taylor, n.d.). Citrix uses AI to support humans by predicting which marketing effort is promising to generate better quality deals. Therefore, they are using data like psychographic and behaviors from customers to get insights (Kaput, 2021).

Theme 3: User must trust and rely on AI and its decision, despite limitations in its autonomous decision-making

"The AI system needs to be transparent to understand the results of its analysis" (p 1). For users it is important to understand how the AI comes to a decision to build trust in the algorithm and to reply to the decision made or to the action proposed. Hence, the transparency of the AI system is key for its reliability (p 1). The success of AI in decision-making is dependent on the human's culture in terms of how much humans rely on and dedicate the decision-making process to AI and the accountability of the decision (p 4). Tendency shows that younger generations are more bias-free and are used to using a computer and relying on its decision (p 2). Nonetheless, lack of trust comes from concerns like data privacy and data security (p 9). Users have "to trust the effectiveness of the algorithm" (p 6) and rely on suggestions or actions (p 7). Participant 1 states that it "is important to not delegate the decision-making responsibility to the AI system [...] because it is far from being perfect and every decision still requires human judgment" (p 1). The algorithm only processes the data in the way it is taught or what it is programmed to do (p 6). Any unforeseen catastrophes like a pandemic might not be included in the analysis. In case ill-prepared data is part of an AI training, the algorithm may have been taught a bug. If the data fed to AI is incomplete or lacks knowledge and experience, the system underperforms (p 7).

All of the cases analyzed relied on a hybrid system of AI and human marketing teams for their decision making. However, only one of the reviewed cases showed issues of trust or limitation in using AI. The company BlueYonder provides software for supply chain management and uses customer data to personalize emails or offers and to predict customer behavior. The founder of BlueYonder mentioned that the decisions often can be influenced by too many variables which are not

predictable. Therefore, the remaining uncertainty is limiting the use of AI for decision-making (Tjepkema, 2018). Also, Red Balloon is describing trust issues and limitations of using AI in terms of finding new customers. Simson, co-founder of RedBalloon, says that AI is about trust and people tend to control everything by themselves. On top, Simson mentioned that AI only works, if you spend enough money on the technology. Hence, AI is not a fit for startups to start the business as it requires huge set up cost (Kaput, 2018).

Subsequent research question: What are the trends and solutions for the use of AI in strategic marketing decision-making according to SMEs?

Theme 4: AI uses big data analysis to predict and recommend

AI can contribute to making a more accurate decision based on a predicted event or development (p 2), proven is that big data is used to make a demand analysis. For instance Amazon has been using big data to understand their customers in detail (Li & Zang, 2021). The trend which can be observed is predicting scenarios more accurately by using AI (p 4). In particular, the technology of AI allows companies to better understand customer needs and make brand predictions (p 7). This was also the case in an in-depth analysis where social media was analysed in how different factors have been improving with the use of big data and machine learning. Few of those factors are: analysis of real time interaction, target your customers specifically and predict future outcomes (Chaudhary et al, 2021). Participant 1 states that AI can support supply chain management to facilitate just in time deliveries by predicting the demand for production and delivery, this has also, at least from the emergence of AI, been reflected in the Chinese property market. With the use of big data and AI, Chinese banks and property builders arranged to implement such big data and AI solutions to understand where the market was heading, hence putting a price tag on front street venues higher than actual properties (Li, et al., 2016). Customer behavior and preferences can also be predicted as well as which sales channels customer prefers (p 1). A reliable decision based on certain facts is only possible if a significant amount of data related to this subject have been processed. Therefore, the algorithm demands a huge amount of big data to make trustworthy decisions (p 6).

The research question with its subsequent research question can be answered by the theme. Better strategic decisions can be made by using AI as the decision process is more efficient and the quality of the decision increases as well. Nonetheless, using AI to support humans in making a decision requires a certain level of trust in the technology. The trend shows that big data is analyzed by AI to make predictions.

In the next chapter, the above illustrated results are discussed

5. DISCUSSION

By triangulating the data of this exploratory research the following themes could be identified: efficiency, quality, trust issue, and big data analysis. These themes are reflected in the perception of the SMEs with regards to the use of AI in decision-making processes. Furthermore, these perceptions can be transferred to the marketing related cases. Lastly, there is a correlation between the SMEs perception, the use cases, and the perspective of the authors from the literature review. The SMEs and the cases reflect an improvement in the efficiency and quality of the decision-making process by using AI. This was also explored by Huang, et al. (2021) where AI can assist marketing teams in choosing the right market to enter and the correct strategy for a marketing campaign to succeed. Moreover, the SMEs mentioned that AI can uncover an option which might have been overseen by humans. Based on Glikson (2020), trust in AI technology is directly correlated with the amount of information fed to the algorithm. According to SME's statements users will trust the effectiveness of an algorithm given they have the transparency of the decision generated by the data inserted. While using machine learning, deep learning or natural language processing algorithms are trained to handle big data which delivers market intelligence (Davenport, et al. 2020), which in turn connects to the SMEs statements that behaviors and tendencies of customers can be predicted.

Finally, SME's responses and use cases contributed to the illustrated views from the literature review. For humans it is important to consider a big amount of data to reflect and evaluate several different options and opportunities. Here, AI is supporting humans with data mining to make a more profound and data-based strategic decision. Additionally, a trend can be observed towards using big data to predict the situation with better accuracy. The paper of Shrestha, et al. (2019) suggests that merging the benefits of AI and humans result in a better organizational decision-making process. Yet, the paper is not illustrating how both benefits can be merged optimally. Likewise, the Colson model is ending with the possible action proposal but is not making use of AI to make predictions about the future scenario or developments in case this decision will be taken by the human. Furthermore the Colson model lacks a loop of machine learning and processing new data. One trend for the future use of AI is suggested by the theme that AI can contribute to predicting future events. This has been identified as an important factor for decision-makers in the SME interviews and in the use cases. As a result, the model in Figure 2 is developed as a new version of the conceptual framework to consider two loops of data processing: first, fully automated action proposal by the machine and second, where humans make the final decision assisted by AI to augment or support the decision.

It seems essential that a marketer making a strategic decision, which leads to consequences on the business, would like to get a better understanding of the risk and would like to get more information on how this decision might influence the future of the firm. This leads to an enhancement of Colson's

model, to contribute in solving this limitation. Here, AI can evaluate the potential decision and predict a potential scenario.

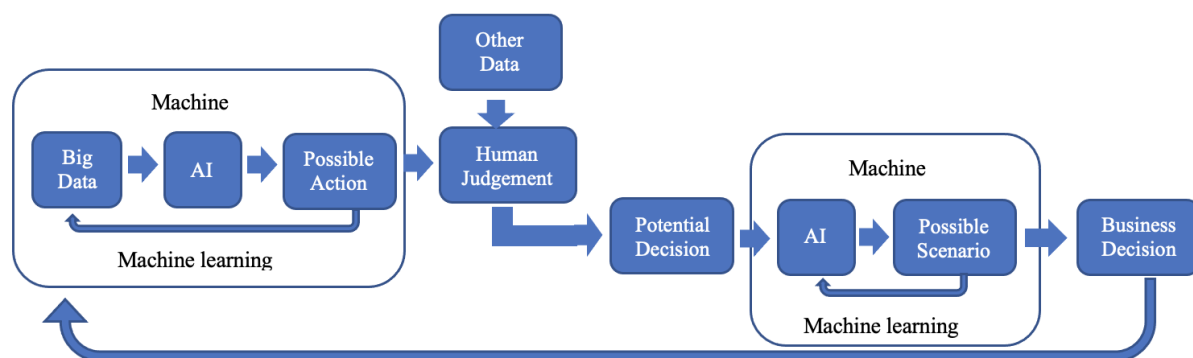


Figure 2: Enhanced Colson's model (Source: Author)

As shown in figure 2, Colson's model, presented as a conceptual framework in chapter two, gets enhanced after the human judgment of the potential action. The business decision will not be taken right after the human judgment. This enhanced model makes another loop by taking the potential decision back to the AI system. The machine then will evaluate the potential decision by also considering the additional data from the human and illustrate the possible scenario that will happen if this decision is taken. Furthermore, the machine will learn and adapt the algorithm by the data coming (Lebovitz, et al., 2021) from the possible action and potential scenario. By illustrating the outcome of the potential scenario, the decision-maker can get an even better vision of its decision effect. This loop can contribute to reducing the bias of using AI for strategic decisions because the user gets an impression of the future scenario when taking the potential decision. Therefore, with the illustrated enhancement, the decision-maker can gain more confidence in its decision. Still, the human judgment of the machine output is indispensable for making better business decisions. Furthermore, the algorithm will learn from the final business decision to increase the database for future decision-making processes.

The conclusion of this paper will be presented in the next chapter.

6. CONCLUSION

The purpose of this qualitative research is to explore how AI is used in strategic marketing decision-making processes to make better decisions. A finding of the research is that AI is used to make decisions more efficiently in terms of reducing the time or the cost for the decision-making process. Furthermore, AI facilitates humans to make use of the available big data to consider their decision as the system can process a high amount of data. Additionally, a complex pattern can be easily and

accurately identified by using AI, which increases the quality of the decision and can contribute to reducing wrong decisions. A further finding of the research is that humans must trust and rely on the AI system to implement the technology in the decision-making process. By processing a lot of different data and identifying patterns, the machine can propose possible actions to the human. The human will subsequently judge the proposed action with its own, non-digital information like experience and subjective opinion to find a potential decision. This research suggests that such potential decisions can then be further evaluated by AI and the machine predicts some possible and future scenarios based on the desired decision.

The implication of this research is that AI can support the human decision-making process for marketing due to the reason that decision-makers can be more confident in their final decision because AI can contribute to predicting the future outcome of their decision.

The sampling strategy and the sampling size are defined to explore the phenomenon. However, the research is limited in generalization due to the lack of a representative sample. To generalize this paper's results, there is a need to examine the topic also with a quantitative research methodology in order to verify the identified themes. Finally, there is a demand for further research to verify and confirm the developed enhancement of Colson's model for supporting humans to make better strategic decisions using AI.

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THE IMPORTANCE OF INSTRUCTORS' STAKEHOLDER PERSPECTIVES TOWARDS CRITICAL SUCCESS FACTORS AND BARRIERS TO EFFECTIVE E-LEARNING COURSE DELIVERY IN HIGHER EDUCATION

Millidonis, Theodoros; Lois, Petros

School of Business, University of Nicosia, Nicosia, Cyprus

ABSTRACT

This study's purpose is to review extant literature on e-learning stakeholders and to focus particularly on demonstrating the nature and importance of the instructors' stakeholder perspective towards e-learning critical success factors and barriers to implementation within higher education institutions. We carry out a narrative literature review of extant empirical studies that have probed instructors' views towards e-learning critical success factors and barriers to successful e-learning implementation, and through our work we summarize and showcase which of these factors and barriers appear to be most significant for e-learning instructors. The study's findings suggest that instructors consider flexibility and autonomy as significant critical success factors, and lack of competence and social interactions as some of the most prominent barriers to implementation of e-learning courses. Different e-learning stakeholders place importance on different factors, and subsequently higher education institutions need to align stakeholder interests to be able to cope with the rapid changes in the educational framework, brought about by COVID-19. Extant literature indicates that e-learning instructors' viewpoints are vital towards the stakeholders' interest alignment process since they are at the forefront of e-learning course delivery, however this review has shown that their views are currently underrepresented. Our work therefore contributes towards extant literature by stating what e-learning critical success factors and barriers are perceived as important by instructors in higher education, and therefore serving to pave the way towards future research into the alignment of stakeholder interests in e-learning. We also suggest future qualitative research avenues to further explore e-learning instructors' viewpoints.

Keywords: e-learning, faculty, higher education, instructor, perceptions, perspectives, stakeholders, online education, critical success factors, barriers

INTRODUCTION

Aim, Objectives and Research Questions

The aim of the current study is to demonstrate the nature and importance of instructors' stakeholder perspective towards e-learning critical success factors and barriers to implementation within higher education institutions.

The objectives of the study are to:

- 1) Study extant literature on e-learning stakeholders
- 2) Study extant literature on e-learning instructors' stakeholder perspective and demonstrate its importance
- 3) Study e-learning instructors' perceptions towards e-learning critical success factors and barriers
- 4) Identify theoretical and methodological gaps in extant literature and propose avenues for future research in the area of studying e-learning instructors' perceptions.

The authors pose the following research question towards satisfying the current study's research aim and objectives: How do e-learning instructors perceive and evaluate factors for e-learning effectiveness and barriers to e-learning implementation?

Methodology

The methodology that has been applied towards satisfying the study's aim is a narrative literature review on the thematic areas of e-learning stakeholder perspectives, the importance of the instructors' stakeholder perspective, and the extant literature outlining relevant instructor perceptions towards e-learning critical success factors and barriers to implementation. More precisely, we have reviewed contemporary empirical investigations aiming to extract and comprehend e-learning instructors' perceptions towards e-learning courses and systems within the higher education industry.

Main Contributions

The present paper contributes to extant literature by stating what e-learning critical success factors and barriers are perceived as important by instructors in higher education, and therefore serving to pave the way towards future research into the alignment of stakeholder interests in e-learning, particularly in the areas where research gaps have been identified.

E-LEARNING STAKEHOLDERS

E-learning Stakeholders' Identification and Engagement

In spite of the rising interest in stakeholder theory over recent decades, the numerous repercussions of stakeholder relationships as seen through the lens of various business and management theoretical fields, functional domains, and industry sectors are still little understood (Belyaeva *et al.*, 2020). Choudhury and Pattnaik (2020) have identified e-learning's main stakeholders as the following: learners, instructors, content developers, accreditation bodies, employers, educational institutes and technology providers. Stakeholders play a very important role to ensure that e-learning is a success as information and communications technology is challenging and, therefore, needs the support of all the stakeholders for it to be successful and to minimize the barriers that come with e-learning (Msomi and Hoque, 2018). The main e-learning stakeholders, as identified by Msomi and Hoque (2018) are presented in Figure 1.

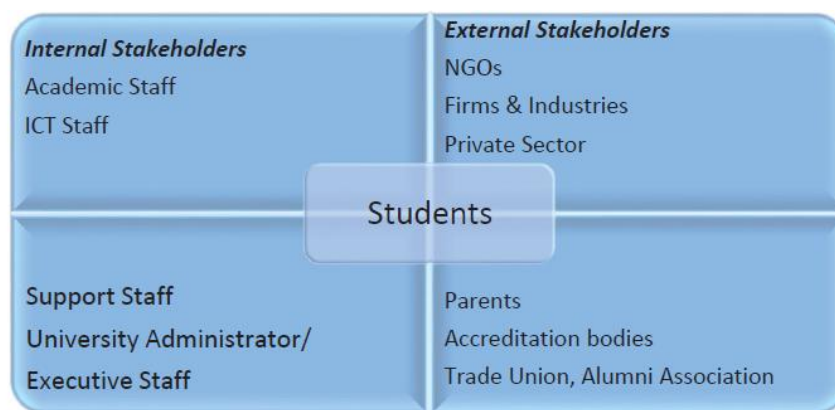


Figure 1. Higher education stakeholders (Source: Msomi and Hoque, 2018, adapted from Leisyte and Westerheijden, 2014, and Asiyai, 2015)

Stakeholders have several analogous concerns with e-learning, which higher education institutions (HEIs) and national governments need to take seriously and address, because these stakeholders have the power to make or break the e-learning initiative. The sooner HEIs understand the importance of analyzing and attending to the stakeholders' perspectives and needs for e-learning, the more the barriers of e-learning can be minimized (Msomi and Hoque, 2018). However, the task of encouraging stakeholder involvement in e-learning is laborious, as Harrison, Hutt *et al.* (2017) suggest that a significant number of stakeholders do not believe that the effectiveness of the e-learning approach matches that of the traditional way, and that qualifications awarded through e-learning are equivalent to those from face-to-face teaching.

E-learning Stakeholders' Perceptions

Even though e-learning stakeholders tend to have similar concerns, their perceptions differ, and it is important to examine their diverse viewpoints in order to ensure successful e-learning implementation and acceptance. Through the application of stakeholder theory in the context of instructors and students as stakeholders of an e-learning system, Alhabeeb and Rowley (2018, p.10) have concluded the following:

The perspectives of students and academic staff differ. The identification and acknowledgement of the different perspectives should prompt decision makers to consider the two perspectives. Failure to satisfy either perspectives could lead to unusable or undesirable e-learning systems.

It would therefore be strongly advisable for HEI management to make alignment of the diverse stakeholder perceptions a strategic priority, in order to ensure successful e-learning implementation. This task is made harder by the fact that the sudden introduction and proliferation of e-learning systems use in view of the conditions imposed by the emergence of the COVID-19 pandemic, present a severe disruptive change to conventional learning systems. Adekola, Dale *et al* (2017, p.5) have stated that “key drivers or change agents, institutional considerations or support needs, processes to facilitate institutional alignment of stakeholders and an understanding of stakeholder roles in this new digital landscape” would all enable a smoother transition towards an increasingly technologically enhanced learning framework. It has therefore been concluded through the study that “a holistic approach is required to enable a successful institutional transition” (Adekola, Dale and Gardiner, 2017, p.5). Such a holistic approach would require thorough examination of the different stakeholder viewpoints individually prior to converging them, so as to pinpoint their concerns and expectations with regard to e-learning systems use.

IMPORTANCE OF THE INSTRUCTORS' STAKEHOLDER PERSPECTIVE

The Role of the E-learning Instructor

E-learning academic staff, or instructors, have been identified in Figure 1 as one of the key internal stakeholders of e-learning course delivery in higher education (Msomi and Hoque, 2018). San-Martín, Jiménez *et al.* (2020), through their research work studying the determinants of instructors' continuance commitment to e-learning in HE, support the concept of addressing the viewpoint of instructors on the development of e-learning, a viewpoint that has been generally overlooked in previous academic studies, but has been shown to be of central importance. The role of e-learning instructors cannot be understated since they are regarded as “content facilitators, researchers, process facilitators, designers, technologists, advisers, assessors, and administrators” (Goodyear *et al.*, 2001, as cited in Almas, Machumu *et al.*, 2021, p.81). Understanding instructors' perspectives towards e-learning use is therefore critical because their perspectives determine how they approach it, and consequently how well they are able to

perform the roles assigned to them within the e-learning environment. This understanding should be based assuming that the more value placed on e-learning activities by the instructor, the greater their engagement with the e-learning process will be (Almas, Machumu and Zhu, 2021).

Understanding E-learning Instructors' Perceptions

A thorough examination of the instructors' perspective towards e-learning is imperative, since according to Bryan, Leeds *et al.* (2018), investment in instructors' development is crucial for successful implementation of e-learning. It is noteworthy that, additionally to the discrepancies of perceptions taken from different stakeholder perspectives (Alhabeeb and Rowley, 2017), extant literature has also shown divergent results in terms of the actual instructor perceptions to e-learning, while that topic has been specifically explored through previous studies. According to Harrison, Hutt *et al.* (2017), quite a few instructors across various HEIs are confident in using online technology for teaching purposes, and they see benefits for their students' learning experience. A large proportion want to increase their involvement with e-learning, and some believe that they need to increase e-learning provision to maintain the current number of ever-increasing registered students on e-learning platforms. These are very positive signs indicating that the foundations for ensuring proper instructor-student interaction, by recognizing the importance of e-learning, have been laid out. Farhan, Razmak *et al.* (2019) have similarly measured instructor confidence in using online educational technologies throughout the teaching process. Attitudes towards e-learning have been examined from the teaching perspective of the e-learning instructor and the results confirm that some, but not all, instructors are confident using technology for teaching purposes. Cherry and Flora (2017) have shown that positive instructor perceptions towards e-learning courses effectiveness have been moderately increasing with the "number of years of teaching e-learning courses, number of e-learning courses taught, and perceived self-competence with the use of technology" (Cherry and Flora, 2017, p.259). This is an indication that the more comfortable e-learning instructors feel within the e-learning environment, the more positive their perceptions towards the teaching process will be.

Some conflicting findings arise from extant literature on instructor perceptions. According to Al-Karaki, Ababneh *et al.* (2021), a considerable number of instructors believe that e-learning could even be superior to traditional classroom instruction, however on the other hand Kumar, Kumar *et al.* (2019) state that several reports over the years have shown that instructor perceptions towards technology and e-learning education have not shifted significantly in recent times and remain negative. Almas, Machumu *et al.* (2021) have explored instructors' perspectives, motivating factors and competences in the application of e-learning systems and what they have discerned, is that despite their desire to employ e-learning, instructors often lack the necessary skills to utilize numerous learning tools present in an e-learning platform, which would allow them to properly design and implement virtual learning

activities. As such, the work performed by Almas, Machumu *et al.* (2021) serves as a clear signal for HEIs to invest in more instructor training and development activities as part of their strategy. It is vital for HEI management to understand the key competences required by e-learning instructors, as satisfaction of these would also lead to higher quality student engagement in the learning process. Additionally, satisfying instructor competences needs in terms of e-learning implementation, would have the effect of improving instructors' perceptions towards e-learning system effectiveness. Delving further into the driving forces behind the formulation of instructor perceptions towards e-learning, Cherry and Flora (2017) have shown that instructor perceptions of e-learning effectiveness are not significantly affected by factors such as instructor role, age, years of general teaching experience, or type of HEI they are employed by. This is an indication that instructor perceptions are for the most part formulated through an intrinsic process of reasoning, acceptance and motivation and are closely connected to their specific experiences with the actual e-learning system itself. Accordingly, it has been shown that instructor perceptions of the effectiveness of e-learning education improve when instructors observe that they have greater competence in the use of technology (Cherry and Flora, 2017) and thus greater ability to navigate easily through the e-learning platform.

INSTRUCTOR PERCEPTIONS TOWARDS E-LEARNING CRITICAL SUCCESS FACTORS

An overview of E-learning Critical Success Factors

In order for e-learning to take place effectively in an online environment, several preconditions must be met (Ahmad *et al.*, 2018). These preconditions are termed as e-learning critical success factors (CSFs) and as per Al-Fraihat, Joy *et al.* (2017), there is a need for a comprehensive, grounded in literature and up-to-date study that gathers all these factors. Consequently, as extant literature has shown that the instructors' perspective is underrepresented yet significant, the query of what CSFs e-learning instructors place importance on needs to be addressed.

Instructors' Perceptions towards E-learning Critical Success Factors

Instructors have been established to hold differing viewpoints on how ICT tools can be best used and what counts as e-learning in HEIs. When asked how e-learning at a HEI may be improved, instructors point to two primary issues: encouraging the use of the Internet and learning technology to embrace more e-learning, as well as improving human-computer interaction to increase individual capabilities in teaching (Almas, Machumu and Zhu, 2021). These are deemed important as technological skills among instructors are crucial in supporting their online teaching (Atim *et al.*, 2021). Aside from technologically related factors, e-learning instructors have also highlighted such CSFs as expertise in

the subject matter (Atim *et al.*, 2021), but also “greater freedom of access, lower prices of training, the possibility of dividing the content of the e-course into modules, the flexibility of training, the ability to keep up-to-date and the ability to determine criteria for assessing knowledge” (Zi-Yu Liu, Lomovtseva and Korobeynikova, 2020, p.4). In a study conducted by Tanis (2020), instructors regarded course objectives in the e-learning class and syllabus, as well as the usage of templates, exemplars and rubrics, as the most CSFs for their teaching. Instructors have expressed a wish for an appropriately designed class comprising of students who are comfortable using IT and are submitting work on time. The findings show that one of the most significant CSFs for instructors in online education is holding students to high standards of professional conduct, academic integrity and performance.

Alongside course flexibility having been identified as a major CSF from the instructors’ perspective, autonomy and customization have also been identified to be the very important. As a result, the efficacy of learning is largely dependent on an interactive, tailored course that fosters student control, while perceived usefulness and perceived ease of use of the e-learning system are important CSFs for students. It is vital for instructors to be able to put themselves in students’ shoes, however it is very challenging for the instructor to comprehend the student’s perception of the e-learning system (Choudhury and Pattnaik, 2020), since their perceptions differ considerably as has been demonstrated by Alhabeeb and Rowley (2018). Other instructor-related CSFs critical to e-learning effectiveness identified by extant literature have included components such as instructional design and instructor presence (Cherry and Flora, 2017). One of the ways in which instructors can contribute towards the effectiveness of e-learning, is by being more present and thus reinforcing students’ sense of community within the VLE. Prior studies have shown students’ sense of community to be of key importance in terms of engagement and satisfaction in e-learning programs (Berry, 2019).

It can be deduced, that gaining an insight into instructors’ perception towards e-learning CSFs would provide a basis for management action in order to satisfy these perceptions. One of the major ways in which HEI management can contribute towards this goal, is by providing adequate training opportunities to instructors, in a cost-effective way. Cost-effectiveness would ensure the sustainability of the training framework, and that is why it should be a key consideration when designing strategy. Instructors believe the e-learning “would be efficient, particularly with adequate training and support, though they are unable to comment on the cost effectiveness of e-learning systems” (Farhan *et al.*, 2019, p.1). Therefore, despite the fact that instructors are able to provide insights to management as to what instructor needs are within an e-learning system, the question of how resources should be spent in the most cost-effective way, remains with management. Management can review instructor perspectives in order to improve on the implementation of e-learning for by adopting a constructivist approach towards designing e-learning by including instructors as key stakeholders in this process (Atim *et al.*, 2021).

INSTRUCTOR PERCEPTIONS TOWARDS E-LEARNING BARRIERS TO IMPLEMENTATION

An Overview of Barriers to E-learning Implementation

Kryshtanovych, Gavrysh *et al.* (2020) while analyzing and condensing the outcomes of methodological and pedagogical studies on the problem of e-learning instructors' level of readiness to use e-learning, have discovered inconsistencies in the practice and theory of e-learning teaching that are created because of the inadequate level of instructors' readiness and lack of competences to properly utilize an e-learning system. Therefore, *"for successful e-learning implementation to take place, e-learning instructors should be equipped with the necessary infrastructural support services and facilities to enhance the full utilization of their competences"* (Almas, Machumu and Zhu, 2021, p.90).

Moreover, some instructors state that the transition to an online approach is fraught with barriers, and this transition impacts other educational activities. Many instructors think that e-learning courses typically lead to an increase in course size and faculty workload, which both have quality implications for course and program delivery, thus undermining instructors' objectives (Al-Karaki *et al.*, 2021). However, instructors' acceptance of e-learning is critical and therefore, in order to more thoroughly understand and accomplish successful implementation and utilization of e-learning systems, an understanding of the barriers faced by these stakeholders is required (Barclay, Donalds and Osei-Bryson, 2018).

Instructors' Perceptions towards Barriers to E-learning Implementation

One of the main barriers that e-learning instructors seem to be faced with is their own perceived lack of competency (Kordrostami and Seitz, 2021), which is related to the ability of instructors to be involved in the e-learning process via an e-learning approach (Mahande and Akram, 2021). Improved e-learning instructor competencies would enable instructors to engage with students more effectively through the VLE, and as HEIs aim to boost their support for e-learning students, they have to strengthen instructor competences to engage outside of the conventional classroom (Berry, 2019). However, distance, time, and lack of financial support negatively affect e-learning instructors' capacity to take part in extracurricular programs. This has had as a result, that e-learning instructors perceive it a challenge to engage students via online medium such as for instance the online forums that are a part of a VLE (de Metz and Bezuidenhout, 2018). HEIs should consider these factors and implement extracurricular programs that satisfy both student and instructor demands (Berry, 2019), however limited HEI resources present a significant barrier towards this end (Daniela *et al.*, 2018).

It would appear as the majority of barriers instructors are faced with, stem from the fact that the process of social interaction in the VLE is not the same as interaction in a conventional classroom, and

as a result of that, e-learning instructors have had to adapt their approach considerably. If the proper approach is not followed, the result is a perceived and actual lack of interaction between instructors and students in the VLE of e-learning systems. An increased strain has been placed on the social interaction, as e-learning instructors are now required not to spend a larger proportion of their time not on teaching and therefore socially interacting with students, but rather on administrative tasks that are created by the increased demands of the e-learning environment. As Graham (2018, p.17) suggests, *“research continues to reflect the position that the absence of social interaction is a major barrier to a positive on-line learning experience”*. Additionally, it seems to be the case that *“the literature indicates a lack of attention to human and social factors in the e-learning agenda”* (Olasina, 2019, p.373). As indicated in prior literature, varying levels of resistance often associated with the impact on e-learning instructors' workload have been documented, combined with the erosion of face-to-face student interaction, the need to acquire new skills and concerns about reliable technical and administrative support (Pedro and Kumar, 2020). Chery and Flora (2017) also cite the lack of personal interaction between students and instructors as an e-learning barrier, alongside increased preparation time needed by instructors, inexperience with IT and an increase in email communications with students.

Instructor acceptance to e-learning is vital, and overcoming barriers that instructors feel they are faced with, is paramount. Unfortunately, if these barriers are not overcome with the help of management, there is a negative cascading effect on students' perceptions towards the e-learning system as well. The biggest concern about providing e-learning in HEIs from the instructors' perspective has been connected to the effect on students (Harrison *et al.*, 2017). As outlined in a study by de Metz and Bezuidenhout (2018) which explores the instructor's perceptions, a lack of preparation and engagement by the students is an essential factor that impacts on their effectiveness as an e-learning instructor, followed by factors such as misalignment of expectations and lack of communication with the HEI management as well as non-participation in decision-making (Singh and Hardaker, 2017). Instructors also seem to be *“dissatisfied with the negative affect of online teaching on student evaluations of instruction, the perception that online education does not enhance teaching effectiveness, and the increased workload associated with grading assignments and preparing for an online course”* (Cherry and Flora, 2017, p.260).

If HEI management leave instructor perceived barriers to e-learning unattended, this would bring about dissatisfaction and lack of motivation on the part of instructors to engage in and accept an e-learning system. Luongo (2018) has found that instructors appear to be facing inadequate compensation for their time, insufficient training, higher workload, uncertain promotion and tenure requirements, and inconsistency in technical and administrative support, and these barriers influence instructor satisfaction and dissatisfaction with e-learning. These have also been accentuated as a result of e-learning instructors feeling that there are unclear promotion and career development paths

provided by their HEIs. Unless e-learning instructors are satisfied with the e-learning experience, they would not be able to garner the necessary level of motivation to effectively engage in and accept the e-learning process. It has been observed that the level of motivation towards participating within the e-learning framework has a direct impact on meeting the CSFs that validate stakeholder satisfaction and Meriem and Youssef (2020) have attempted to determine the factors that impact the motivation to adopt e-learning by HE instructors. They have identified factors such as institutional incentives and computer self-efficacy, the e-learning system, culture and institutional support, so these are prime areas for HEIs to invest in. Conversely, Meriem and Youssef (2020) propose that barriers such as computer anxiety, lack of experience with e-learning and the time required to prepare courses using technological tools can be overcome with appropriate instructor training and sensitization.

IMPLICATIONS OF THE STUDY

This paper contributes to the expansion of stakeholder theory studies in terms of e-learning in higher education. The study has shown that taking into account the perceptions of e-learning instructors is of paramount importance to HEI's that offer online courses (San-Martín *et al.*, 2020). To this end, a review of extant literature has shown that e-learning instructors place a lot of importance on e-learning critical success factors such as quality of the system (San-Martín *et al.*, 2020), technological skills (Atim *et al.*, 2021), expertise in the subject matter (Atim *et al.*, 2021), course flexibility, autonomy and customization (Tanis, 2020). The main barriers to e-learning implementation as perceived by instructors are lack of competency (Kordrostami and Seitz, 2021), distance, time, and lack of financial support (Berry, 2019) absence of social interaction (Graham, 2018), and lack of preparation and engagement by the students (de Metz and Bezuidenhout, 2018). Therefore, these are among the thematic areas which should be studied further within the framework of understanding e-learning stakeholders' views, with specific reference to the instructors' view as one of the key stakeholder groups of e-learning in higher education.

AVENUES FOR FUTURE RESEARCH

Kumar, Kumar *et al.* (2019) state that they have not encountered a sufficient number of studies that look at perceptions and attitudes of instructors in terms of online education effectiveness and implementation. This indicates that there is further scope within existing contemporary research revolving around the topic, to study the placement of value on social rather than technological factors, since the formulation of instructor perspectives is borne out of human and social factors that affect them. San-Martín, Jiménez *et al.* (2020) support the idea of further academic work to be performed with a focus on the instructors' perspective on e-learning development, which according to them has been

largely neglected in prior academic research. More specifically, Almas, Machumu *et al.* (2021) prescribe the utilization of qualitative research methods such as in depth semi-structured interviews in order to obtain a higher level of insight towards comprehension of the competences, motives and perceptions of instructors to accept and use e-learning systems effectively.

CONCLUSIONS

The most likely way to encourage e-learning acceptance is by enabling stakeholders to recognize the benefits of e-learning. Their interests firstly need to be addressed separately, and by taking into account individual stakeholder perspectives; a process that would contribute towards ensuring that human and social factors related to e-learning acceptance, and brought about by individual perceptions, are addressed (Olasina, 2019). Examining individual stakeholder perceptions and obtaining their views would represent a paramount step towards including them in the management decision-making process that could create a better e-learning environment for all users. Extant literature exploring instructor perceptions towards e-learning has shown that there is scope for further investigation into the convergence between the significance of particular quality factors identified by instructors (Alhabeeb and Rowley, 2017), together with the corresponding implementation actions that should be taken by HEI management towards the achievement of each quality factor, while also exploring the most cost-effective ways of materializing this endeavor.

Consequently, if HEIs are seeking to increase their e-learning provision capabilities in a post COVID-19 world with increased virtual learning demand, management needs to consider how to address and satisfy the instructors' perspective to e-learning. There could be benefits from showcasing examples of good practice to instructors from within and outside of the HEI (Harrison *et al.*, 2017), which would serve to improve their perceptions towards e-learning. This needs to coincide with demonstrating the effectiveness of e-learning when compared with face-to-face provision from the instructors' perspective, and once communicated properly to this stakeholder group, their support would be obtained by pinpointing the precise quality factors that have led to such positive outcomes. From the instructors' viewpoint, the quality of the system is deemed to remain as the most critical factor influencing both the organizational impact and, to a lesser degree, the dedication to continuance commitment (San-Martín *et al.*, 2020).

As HEIs have faced a disruptive change to learning delivery, it is essential that they embrace the change and attempt to create benefits as a result of the new opportunities presented by the ever-evolving education landscape. However, as identified by Ives and Walsh (2021), HEI management, instructors and students all seem to be resistant to changes required to keep in line with e-learning

demands and this presents yet another significant psychological barrier to effective e-learning implementation.

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TECHNICAL AND ECONOMIC ANALYSIS OF THE DAIRY COW INDUSTRY IN CENTRAL MACEDONIA, GREECE

Mitsopoulos, I.¹; Gourdouvelis, D.²; Pavloudi, A.¹; Petkou, D.³; Tsiouni, M.¹; Aggelopoulos,

S.¹

¹School of Agriculture, International Hellenic University, Thessaloniki, NeaMoudania 570 01, Greece.

²Department of Animal Production, Faculty of Agriculture, Aristotle University of Thessaloniki, Thessaloniki, 541 24, Greece.

³Department of Education and Care in Early Childhood International Hellenic University Thessaloniki, Greece

ABSTRACT

The purpose of this project is to present the results of a technical and economic analysis in the sector of dairy cow husbandry derived from a sample of 118 farms in Central Macedonia, Greece. The farm samples can be divided into four classes based on the number of breeding cows. The discrimination is meant to highlight the liabilities and prospects of the main factor categories and to identify opportunities to continue to operate in the new, liberal environment which is formed for the milk production industry. The sector is fund intensive because is characterized by very high investments in buildings, facilities, and mechanical equipment; however, labour demand and availability determine a significant degree of economy, especially on small holdings. A particular factor is the use of the purchased or the self-produced feedstuffs, which forms greatly the economics of the farms, as the nutritional costs represent a high percentage of the total costs for the four categories of holdings that emerged from the analysis.

Keywords: Dairy cattle; Economics of the dairy farms; Milk production

1. INTRODUCTION

Greece's dairy cows' sector is gaining importance, contributing significantly to the gross value of the country's livestock production. At the beginning of the last decade, in Greece, there were 5,076 farms, with 144,000 cows, which produced 699,298 tons of milk. Nowadays, these numbers have dropped to 3,263 farms, with the number of dairy cows (85,628) decreasing significantly (ELSTAT, 2013; Eurostat, 2019). Their annual milk production stands at about 650,000 tons (Eurostat, 2019), showing a trend toward concentration of production with large-sized holdings emerging. In the Region of Central Macedonia, there is 33.9% of the country's farms (826 farms over 50 cows), raise 42.5% of the total cow population. Cow breeding is a significant economic pillar in Central Macedonia. Especially in the

Regional Unit of Thessaloniki, it is produced 26,5% of the total milk production, in the Regional Unit of Kilkis the 16,1% and finally in the Regional Unit of Serres the 15,7% of the total country's milk production (Elstat, 2019). Maintaining the activity and production of the cow holdings is directly related to their ability to adapt to the market conditions. In light of the current farm structure, as well as the trend of increasing concentration of production, it appears that there are significant differences in the organization, management, and financial capabilities of farms of different sizes. An ordinary and useful way of describing farm diversity consists in specifying the structural characteristics of different farm types. On that basis, Van der Ploeg et al., (2009) suggest the classification as a reflection and a carrier of modernization. Based on the Environmental Data Analysis (DEA) and Stochastic Frontier Analysis (SFA), Theodoridis (2008), determined that increasing the number of cows per holding would improve the economy of the sector.

This study presents the results of the technical and economic analysis of 118 dairy cow farms in Central Macedonia, Greece. A properly structured questionnaire was used to collect the necessary data from these farms. Based on the number of cows per farm in the sample, the holdings are divided into four groups. The analysis calculates basic technical and economic indicators for each size class and for the entire sample. Moreover, the capital formation of the holdings, the composition of their production costs, and their financial performance are investigated. The classification of the categories and the calculation of the indicators, serve to indicate differences that are caused by farm size, identify weaknesses, and also to highlight the viability prospects of each category, in order to gauge their chances of continuing to operate in a liberal environment.

Generally speaking, the main object of this study is to identify the strengths and weaknesses of dairy cow farming in order to ensure its viability and competitiveness. This study evaluated cow dairy farms' economic performance, as well as factors influencing financial performance. Conclusions can be drawn based on the gross return achieved, the composition of total costs (land, labor, capital), and the financial results.

The study is organized as follows: First, the data collection method is presented, as well as some information on how financial and technical data were processed. Next, it is presented the results of the techno-economic analysis both for the average holding and for the four distinct size classes. In the end, along with the conclusions, recommendations are provided for the improvement of the economy of the holdings in each size class, as well as for their future prospects in the new environment that is being formed.

2. LITERATURE REVIEW

Dairy cow farming is a significant sector of animal production, as it contributes significantly to the

national economy. Although the sector produces high-quality products, it shows low competitiveness due to its high production costs, within the European Union countries. Dairy farms' economic viability is determined by their ability to grow and survive. The measurement of this parameter is especially important in times of environmental change. In order to achieve economic sustainability, farms need to be able to cover operating costs and liabilities, develop, and achieve economic viability (Barnes et al., 2015). An evaluation of economic viability assists in diagnosing the condition of a farm and its potential for growth. Prices and yield volatility are the primary cause of fluctuations in farm income, which affects farm families' ability to expand their operations (Barry et al., 1988). Farm size, liquidity, and specialization could affect income and revenue variability (Agrosynergie, 2011). The average dairy cow farm is not profitable or can't survive without subsidies (Tsiouni et al., 2021).

In the dairy industry, feeding costs are about 70% of the total production costs in Greece, the highest among EU countries. In a study referred to the technical efficiency of the dairy cow sector results showed that the mean gross margin for efficient farms is about 3,6 euros per cow. Efficient farms generate 1,6 €/cow in gross revenue and 1,1 €/cow in profit. For efficient farms, land costs average 18 euros/cow, labor costs average 176 euros/cow, and feed costs average 1,6 euros/cow, which represents about 83% of total variable costs and 64.5% of total production costs (Mitsopoulos et al., 2021). In the suckler cow sector, the gross profit accounted for 435 €/cow but 71% of the gross profit came from subsidies (Gourdouvelis et al., 2019). In another study, the feed cost accounted for 427 €/suckler cow and the cost of foreign labour was 23€/suckler cow (Tsiouni et al., 2019).

In other research on dairy cow farming in Turkey among variable cost averages, feed costs represent a vast majority (86.52%). Veterinary-drug costs accounted for 7.67%, artificial insemination costs accounted for 2.95 %, and electricity costs accounted for 1.25 %. Labour cost was ranked second after feed cost (63%) (Yilmaz et al., 2016). According to Ozawa et al. (2005), feed, interest, and payments accounted for over 60% of costs in New Zealand dairy farms. As a result of the high cost of dairy cows, small farms are missing out on the dairy cattle business (Yilmaz et al., 2016).

As shown in the literature review, issues related to the viability of dairy cow farming have been studied, however, no bibliographic reports specifically address the role of size farm in economic results. It is, therefore, necessary to study dairy farming and to calculate the basic economic results, according to the number of animals per farm. Technic and economic analyses determine the strengths and weaknesses of the sector in order to make it both viable and competitive.

3. METHODOLOGY

This study was conducted in 2020 from cow farms in Central Macedonia, and is based on the accounting monitoring system (Kitsopanidis, 2006) and involves the dairy period from 2019 to 2020.

Data collection was performed through interviews and an on-site visit. The questionnaire was designed exclusively for the purposes of the research and includes questions about the dairy cow sector and about the related feedstuffs production sector, which provide products that are the basis of animal nutrition. The variables that were used referred to imputed rent and hired land expenses, family and hired labour expenses, fixed and variable capital, and the gross margin including subsidies. Based on the number of farms, the sample holdings are divided into four sizes for the purposes of the techno-economic analysis. A first-class farm is one that breeds up to 50 cows, a second-class farm is one that breeds 51-100 cows, a third-class farm is one that breeds 101-150 cows, and a larger farm breeds more than 151 cows.

4. RESULTS AND DISCUSSION

According to Table 1, farms were divided into four classes based on the number of farmed cows. The first class includes 19 holdings with no more than 50 cows. In this size class, the typical holding has 34.2 dairy cows, while each cow corresponds to 0.21 pregnant heifers, 0.63 non-pregnant heifers, and 0.67 calves. As it concerns the second class, there are 45 farms, which raise 51-100 dairy cows. The average farm of this category breeds 75.8 dairy cows and has a high proportion of pregnant heifers (0.29 per dairy cow). Therefore, these farms tend to increase their size and production volume by increasing their livestock. The third-class holdings are relatively large, averaging 101-150 dairy cows each. A typical holding of this class raises 123.7 cows on average, which corresponds to 0.25 pregnant heifers, 0.56 non-pregnant heifers, and 0.37 calves on average. The fourth class includes large holdings, which raise more than 150 dairy cows, with an average number of 217.3 cows.

As it concerns the average dairy herd size in the EU-27 is 9.8 cows per farm. Less than 2% of EU-27 dairy farms have 100 cows or more. Mean herd sizes in Germany, France, and the United Kingdom are 40.3, 41.0, and 69.4 cows, respectively. The percentage of farms with more than 100 cows in Germany, France, and the United Kingdom is 5.1%, 2.4%, and 27.3%, respectively. Denmark and Cyprus have the highest average herd sizes in the EU-27, with 101.4 and 94.4, respectively (Doughrati et al., 2013).

According to Britt et al., (2017) farm sizes will increase in future and there will be greater lateral integration of housing and management of dairy cattle of different ages and production stages.

Table 1. The distinction of farms into four classes based on the number of cows

	Size categories				Average farm
	1-50	51-100	101-150	>150	
1. Number of holdings	19	45	24	30	
2. Livestock Unit					
Dairy cows	34,2	75,8	123,7	217,3	113,7
Pregnant heifers	7,3	22,0	30,9	51,6	29,0
No pregnant heifers	21,5	48,4	69,2	126,9	68,3
Calves	22,8	32,3	45,3	100,4	50,7
3. Milk production (kg)	182.895	555.636	867.083	1.940.633	911.081

Technical and economic data are presented in Table 2, which illustrates the representative holdings in the four size classes and the "average" holding in the sample. Generally, the samples' holdings support the provision of animals' nutritional needs through self-produced feed, as the "average" farm cultivates 2.0 acres per cow for animal feed production. As the size of the holdings increases, the cultivated area for feedstuffs decreases, from 3.7 acres to 1.7 acres per cow. As indicated by this trend, smaller holdings are more dependent on self-produced feed, indicating that they are less dependent on volatile market prices for feed. It is noted that the main crops are winter cereals (wheat, barley, oats), maize, and alfalfa.

Table 2. Technical and economic data on class size and the "average" farm of the sample

	Size categories				Average Farm
	1-50	51-100	101-150	>150	
1.Cultivated land (acre/cow)	3,7	2,6	1,7	1,7	2,0
Dry (acre/cow)	2,3	1,7	0,7	0,5	0,9
Irrigation (acre/cow)	1,4	0,9	1,0	1,2	1,1
2. Milk production (kg/cow)	5.342	7.332	7.011	8.931	7.936,0
3. Average price of milk (€/kg)	0,348	0,365	0,377	0,394	0,382
4.Labour (hours/cow)	101,9	62,3	49,0	39,4	53,2
Family labour (hours/cow)	65,2	30,4	16,9	14,5	22,7
Foreign labour(hours/cow)	36,7	31,9	32,1	24,9	30,5

The average milk yield per farm and cow is 7,936 kg. However, the quantity of milk differs significantly between the four classes (Diagram 1). First-class holdings achieve an average milk yield of 5,342 kg/cow, while the yield of the second-class holdings is higher than the third-class holdings (7.332 kg/cow versus 7,011 kg/cow). As a consequence of better management of their available sources, the largest farms achieve high yields and a high average milk price (8,931 kg/cow and € 0.394 / kg respectively). The above is confirmed by Wilson (2011) in his study, that the most profitable producers operate larger, higher-yielding herds and achieve greater milk prices for their output. The results of milk production are generally high as the farming system is highly intensified compared to the corresponding average milk production of countries that apply pasture-based farming systems such as Argentina (5,600 kg) where the average farm has 160 cows and the stocking rate amounts to 1.4 cows/ha (Lazzarini et al., 2019).

The above tendency of intensification of the applied breeding system has also been recorded in the E.U. where in both Ireland and the Netherlands the average holding increased in size by 12 and 34% respectively (to 71 and 80 cows) combined with a slight increase in stocking rate (Läpple & Sirr 2019). In the Netherlands, the average milk production per cow per year was 7,768 kg, which is very close to the yields of the second largest farm category in the present study. Similar results for the height of milk production were reached by Álvarez, et al., (2008) in their study of 222 farms in Spain (7,196 kg), where the average farm owned 39 cows.

The examination of labour exploitation for each class size leads to interesting observations regarding the holding capacity. In the small farms of the first class, 64% of the labour belong to family members (101.9 hours/cow), revealing their family structure. However, as the size of the farm increases, both the hours of labour required and the contribution of the family to the farm decreases. Therefore, for farms with more than 150 cows, the working time counts in 39.4 hours per cow, while the family labour contributes about 37%. In their study, Kuhl et al.,(2020) did not find any significant difference in the employment time of the staff between the classification categories of holdings. As a result of the above mentioned, large-scale farms have less of the characteristics of family farms since they are better organized and use hired labour. The same is supported by Pouloupoulou et al., (2018) in their study where they estimated for small farms the working time as 270 manpower hours per cow per year while in large herd size farms, required 82 hours/cow/year. Also, Wilson (2011) found lower labour costs per cow flowing from large farms (37.7 labour h/cow/yr) in comparison with 58.8 h/cow/yr for the small farms.

In future Britt et al. (2017) state that integrated sensors, robotics, and automation will replace much of the manual labor on farms.

The capital composition of the sample holdings is shown in Table 3. In the average operation, fixed capital expenditures represent 41.9% of all invested capital, while building-provided facilities represent 31.6%. This indicates that the dairy cow sector in Central Macedonia is in the process of modernizing its dairy farms.

Table 3: Capital formation in class size and the "average" farm of the sample

	Size class								Average farm	
	1-50 cows		51-100 cows		101-150 cows		>151 cows			
	€/cow	(%)	€/cow	(%)	€/cow	(%)	€/cow	(%)	€/cow	(%)
1. Variable capital	1.630,8	34,1	2.269,8	23,9	1.961,9	25,6	1.964,2	24,4	2.018,8	24,6
2.Livestock capital	2.044,8	42,8	2.775,9	29,3	2.576,3	33,6	2.895,8	35,9	2.756,5	33,5
3.Fixed capital	1.102,4	23,1	4.444,5	46,8	3.118,2	40,7	3.197,7	39,7	3.444,7	41,9
Buildings	666,7	14,0	3.382,5	35,6	2.137,4	27,9	2.497,9	31,0	2.597,1	31,6
Machines	430,1	9,0	979,9	10,3	956,2	12,5	680,5	8,4	812,0	9,9
Other	5,6	0,1	82,1	0,9	24,6	0,3	19,3	0,2	35,6	0,4
Total	4.778,0	100,0	9.490,2	100,0	7.656,4	100,0	8.057,7	100,0	8.220,0	100,0

In the second, third, and fourth size classes, building constructions makes up the largest percentage of the capital structure. As a matter of fact, the second class has a relative percentage of 35.6%. Accordingly, these relatively small farms seem to have invested heavily in underutilized buildings. In contrast, the value of buildings contributes only 14.0% of the total investment capital in small holdings of the first class. Thus, small farms appear to use old buildings, since their value (€ 666.7/ cow) is much lower than the sample average (€ 2,597.1/ cow). Samson et al., (2016) in an extensive study (345 farms) for the industry of Dutch dairy farms resulted that production intensity matters when analyzing production expansion behavior. They claim that compared to extensive farms, intensive farms have a higher probability of milk production expansion.

Livestock capital makes up 1/3 of the total invested capital of the "average" holding and makes up the second-largest share of the capital formation of second, third, and fourth-class holdings (Diagram 1). As indicated by this significant percentage, Central Macedonia's farms desire to import high-yielding animals in order to increase productivity. However, of particular interest is the first class, in which livestock capital represents 42.8% of the total invested capital, and at the same time presents the lowest value (€ 2,044.8/cow). These farms seem to make relatively low investments in variable and fixed capital, while their livestock capital is of lower value than the other farming classes.

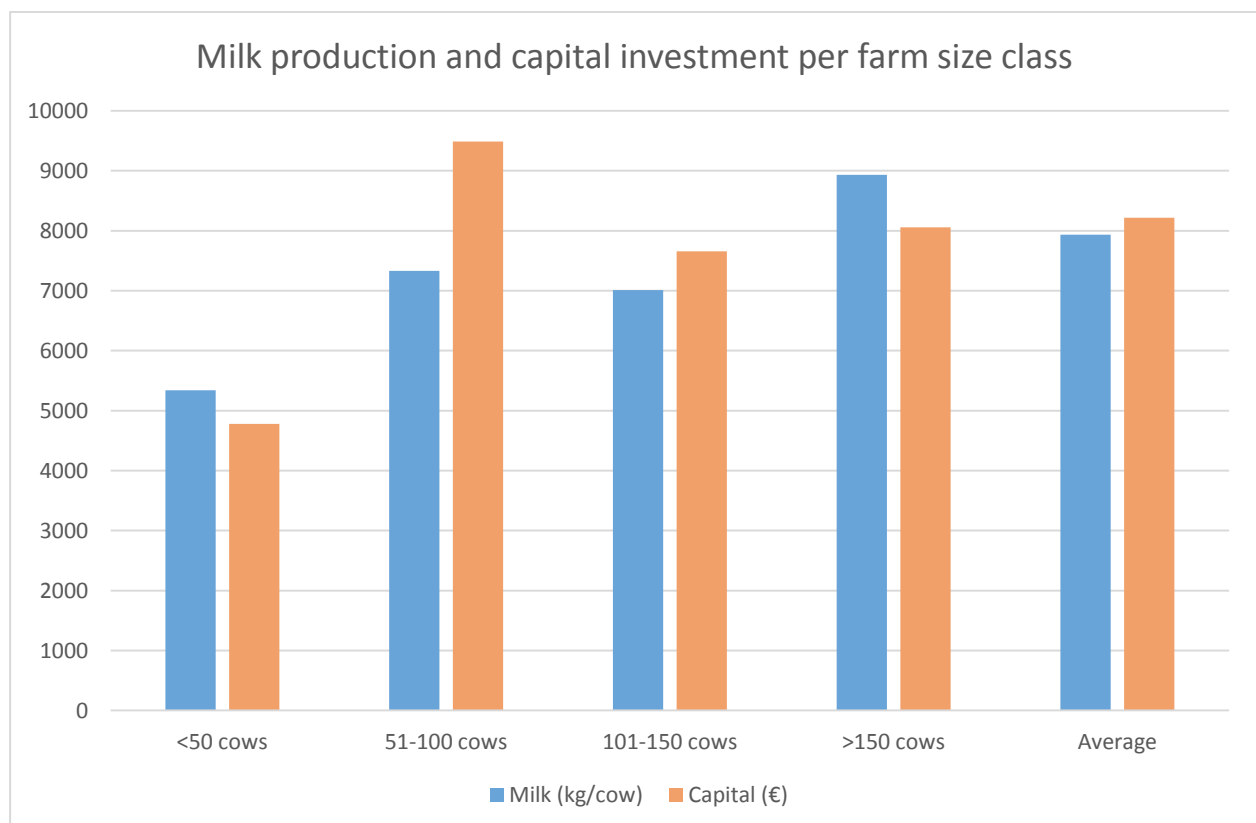


Diagram 1: Milk production and capital investment per farm size class

Table 4 shows the composition of production costs for the representative holdings of the four classes and for the entire sample. The results confirm the high capital intensity of the sector, as, in the average

operation, the relevant expenses amount to 90.7% of the total. In Central Macedonia dairy cow farms, 51.8% of total expenditure becomes from feed (either purchased or self-produced), which indicates that an improvement in the economy of the farms is directly related to the improvement of rational diets and possibly also to an expanding supply of self-produced feed, which accounts for 4.9% of the total. Fixed capital expenditures (25.4%) are also important. The composition of production costs varies in relation to the size of the holdings, based on the number of cows. Kuhl et al.2020 in their own technical and economic study for small dairy farms in northern Italy found that low-input farms have lower variable costs but similar fixed costs and lower revenues compared to high-input farms. As a result, high-input farms are economically superior to low-input farms in terms of income per farm.

For the first size class, the most prominent feature is the particularly high share of labor costs in total costs (13.2%), which is significantly higher than the sample average (€ 349.9/ cow versus € 196.4/ cow). Therefore, the best exploitation of the productive factor is essential to improve the economic prosperity of the first size class. It is also noteworthy that, on average, feeding costs are low (€1.107/cow, 41.8% of the total), which are accompanied by relatively high costs for cereal production. This emphasizes the special importance of self-produced feedstuffs on-site for small, family farms.

The fixed capital expenditure on farms with 51-100 cows is the highest (€ 1,840.6 / cow) and the second most important factor determining overall expenditures, after purchased feedstuffs (27.0% and 51.6%, respectively). Due to the relatively small size on the number of cows, these costs have an impact on the economy of scale and the operational ability of these farms because their financial results show that the available fixed capital is not fully utilized.

The synthesis of production costs concerning the third and fourth-size-class farms is almost similar. The feed cost is also the main cost component for these class sizes (€ 1,533.0 / cow and € 1,543.8 / cow respectively), as it contributes 51.4% and 52.9%, respectively, to their formation. Fixed capital expenditures amount to about 1/4 of total expenditures. Labour costs (€ 179.3 / cow and € 159.6 / cow) are significantly lower than the two smaller size classes, which indicates the better exploitation of this parameter.

Table 5 presents the economic results of the average farm. On the average farm, there is a profit of 569.7 euros per cow (Diagram 2). The dairy cow industry can be characterized as a business type, which can survive in a competitive environment. Capital efficiency is high (10.1%). The activity can therefore be considered profitable according to business criteria. At the same time, the farm income is relatively high, amounting to € 1,371.9/cow.

Table 5: Financial results on class size and the "average" farm of the sample

Financial results	Size class								Average farm	
	1-50		51-100		101-150		>151			
	€	€/cow	€	€/cow	€	€/cow	€	€/cow	€	€/cow
Gross Return	87.819	2.567,8	255.461	3.370,2	404.709	3.271,7	889.061	4.091,4	415.812	3.657,1
Total	90.719	2.652,6	270.235	3.565,1	368.737	2.980,9	633.929	2.917,3	351.037	3.087,4
production cost										
Profit/Loss	-2.900	-84,8	-14.773	-194,9	35.972	290,8	255.132	1.174,1	64.775	569,7
Labour	9.066	2,61	3.957	0,81	58.151	8,81	289.815	31,51	87.102	14,41
revenue										
Net annuity	11.601	4,02	38.916	4,22	105.665	7,62	382.035	16,52	133.654	10,12
Farm income	23.567	689,1	57.646	760,5	127.844	1.033,5	416.716	1.917,7	155.985	1.371,9
Gross margin	32.045	937,0	83.410	1.100,4	162.010	1.309,7	466.152	2.145,2	186.263	1.638,2

The Gross return per cow is higher for the bigger farms. The results were expected, especially for the difference between the first class and the fourth class, due to the substantial difference between their accelerated returns and prices. Production costs per cow, on the other hand, show no specific trend between classes, as it is low in the first class, increased significantly in the second, and then decreased in the third and fourth classes. Based on the data in Table 4, this is due to the high costs of fixed capital for the second-class holdings and the low feed costs for holdings with fewer than 50 cows.

Furthermore, the above observations interpret the net profit formation for the four classes. First and second-class small farms lose money (84,8 euros per cow and 194,9 euros per cow, respectively), while third and fourth-class farms make a profit of 298,8 euros per cow and 1,174.1 euros per cow, respectively. In light of this, it becomes clear that the relatively large number of holdings, which have business orientation, also have a good chance to achieve operational viability in a competitive environment. The small farms, which have family farm characteristics, however, have a positive farm income (€ 689.1 / cow and € 760.5 / cow, respectively), which shows they also have reasonable maintenance prospects, provided they have adjusted appropriately (Diagram 2). According to that point of view, Wilson (2011) claims that the UK dairy sector is likely to continue with the least profitable and typically smaller dairy enterprises being replaced by a smaller number of expanding dairy production units.

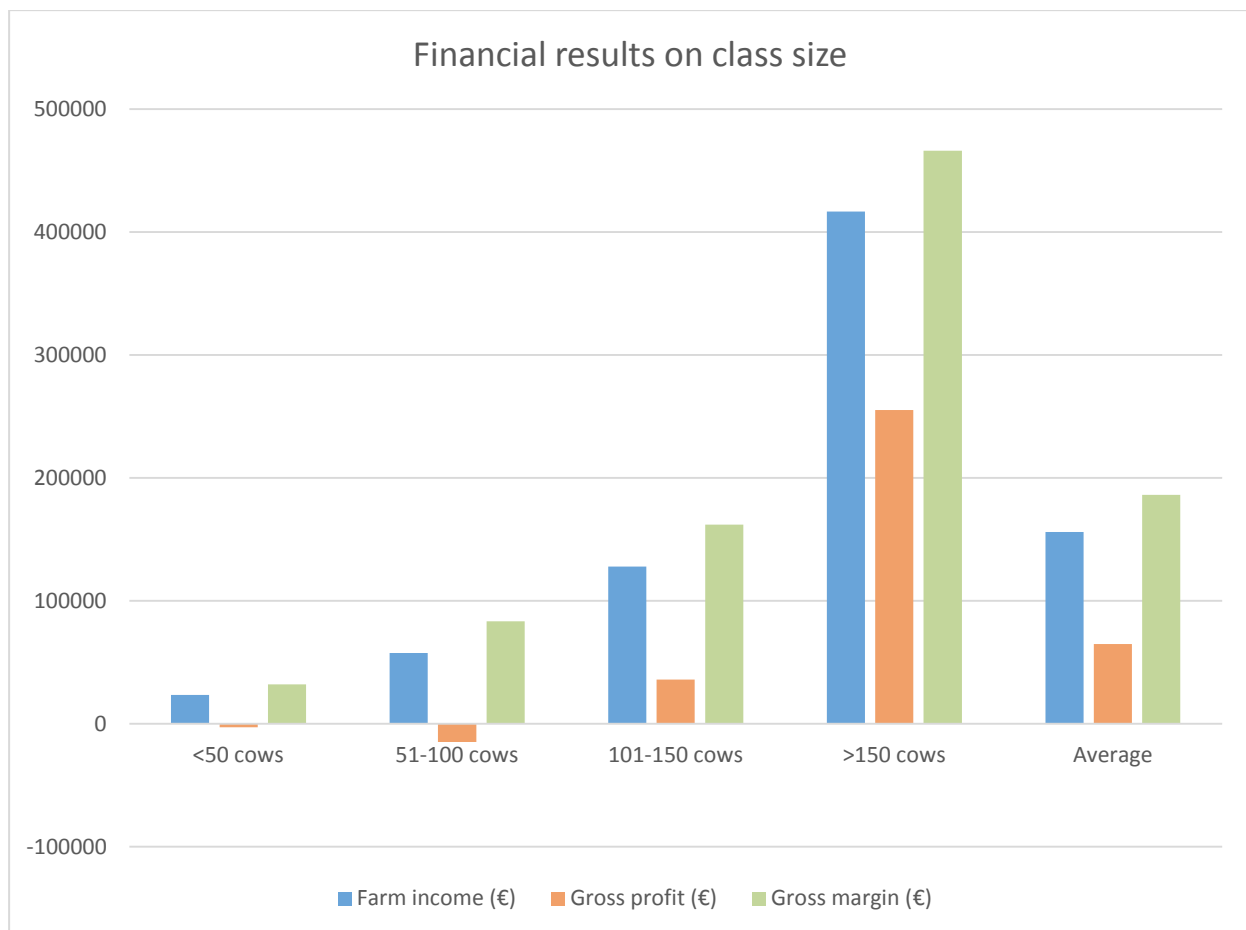


Diagram 2: Financial results on class size.

The examination of capital efficiency is very important. This size is considered satisfactory in all classes, especially in the fourth class (16.5%). For small farms, labour revenue is low, because they are unable to manage their workforce effectively. Particularly in the second class, the low labour (0.8€/hr) indicates that the intensification of labour performance could lead to better utilization of available infrastructure.

5. CONCLUSIONS

In Central Macedonia, the dairy cow sector is characterized by high investments in construction and mechanical equipment, however, the organization of available labour determines the economy in a significant way, especially on small farms. Self-produced feed is a particularly important factor that affects the economy of farms. Moreover, the key to improving the efficiency and profitability of a farm business is maximizing pasture growth and use (Hanrahan, 2017). A sector's prospects hinge on its ability to respond to changes in the market, on improving capital management, and on gaining access to capital.

Technical and economic analysis of 118 cow farms in Central Macedonia distinguished four types of farms, based on the number of dairy cows they raised. The analysis shows significant differences between them, both in the organization of their available factors as well as in their physiognomy and orientation.

Therefore, based on the particular characteristics of the farms, different adjustments are proposed to continue their operation, thereby improving the overall market operation in the sector.

In the first class of farms (1-50 cows), we find the smallest farms in the sector. On average, the farms in this class raise 34.2 cows. As a result of zootechnical management shortcomings, the average yield is the lowest among the four classes (5,342 kg/cow). Agricultural families usually perform the required labour, but management is inefficient, resulting in high production costs. Self-produced feed is very important in reducing production costs. In addition, these farms invest little in buildings or machines. The above factors result in these farms operating at a loss.

The 2nd class of farms includes holdings that raise 51-100 cows. On average, the farms in this class raise 75.8 cows. Their average milk yield is relatively high (7,332 kg/cow), which is consistent with the significantly high value of their livestock. The contribution of family labour is approximately equal to that of the hired labour. In terms of nutrition, these farms rely on the feed market at a very high rate. Characteristic is the particularly high contribution of fixed forms of capital to their capital formation, which indicates a tendency to modernize their operation. Investment costs are the second-highest source of costs, after those that are incurred from the feed market. This has an impact on the profitability of farms, which operate at a loss. This impacts the profitability of farms, which operate at a loss. Labour revenue is the lowest among the four classes. These farms can significantly improve their economies by increasing the number of dairy cows. Most of these farms began operating in recent years, and as a result, have increased in size.

The 3rd class of farms includes holdings that raise 101-150 cows. These farms cultivate a small area, thus supporting the coverage of nutritional needs with purchased feed. Their average milk yield is 7,011 kg per cow, and when combined with relatively high milk prices, their gross income is high. Additionally, they make good use of their infrastructure, which allows them to shape their production costs at a low level. As a result, these class farms operate profitably. The above factors indicate the viability of these farms in a more competitive environment. The improvement of animal diet will help this category of farms.

In the 4th class (> 151 cows), the average number of cows is 217.3, which means that they are large holdings. Cattle farms with large herds achieve the highest milk yields, and best milk prices, and manage their labour more efficiently. Their high building investment shows their business orientation. They have satisfactory financial results, especially the return on capital. With the more capital-

intensive technologies, these farms imply significant economies of scale. Moreover, larger farms with a larger number of cows adopted all technologies, management practices, and production systems except for grazing more often (Khanal et al., 2010). The high capital requirements, however, make them more dependent on changing market conditions. Improving capital management and reducing feed costs will improve their prospects. According to Álvarez, et al., (2008), the adoption of a more comprehensive production system has been implemented to reduce costs. Finally, the prediction of Britt et al., (2017) for the future is that dairy farming will become modernized in developing countries and milk production per cow will increase, doubling in countries with advanced dairying systems where the achieved profitability of dairy farms will be the key to their sustainability.

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THE IMPACT OF ARTIFICIAL INTELLIGENCE INTENSITY IN ACCOUNTING INFORMATION SYSTEM QUALITY AND FINANCIAL INFORMATION QUALITY

Monteiro, Albertina; Cepêda, Catarina; Vale, Joana; Rua, Orlando

Porto Accounting and Business School, Polytechnic of Porto, CEOS.PP, Portugal

ABSTRACT

The reliance of digital transformation on Artificial Intelligence (AI) is crucial for digitisation development processes in organizations. Based on technology dominance theory, this study aims to develop and evaluate a theoretical model that seeks to analyse the relationship between Artificial Intelligence adoption intensity, Accounting Information System Quality and Financial Information Quality. We developed a study based on a sample of 381 Portuguese companies. Data were submitted to multivariate statistical analysis and linear regression model. The structural equations model was used for this purpose. Results show that Artificial Intelligence adoption intensity together with Accounting Information System Quality contributes to Financial Information Quality. This research covers a literature gap since it empirically analyses Artificial Intelligence implementation and its relevance for Financial Information Quality, which it can contribute to business success from Portuguese companies.

Keywords: Artificial intelligence, digital transformation, accounting information system quality, financial information reporting

1. INTRODUCTION

Accounting digitalization is used as a summary term for a variety of research developments on automation of accounting processes based on emerging technologies (Quattrone, 2016). According to Lehner et al. (2019), digital accounting research field will have to be interdisciplinary, as it includes digital technology discipline, i.e., information and accounting. Given the importance of technological innovation in organisations, sophisticated accounting information systems are increasingly being designed to meet strategic objectives and improve organisational performance (Naranjo-Gil et al, 2004).

For instances, the technology-intensive industries creation in the second half of 20th century affirmed industrialisation significance. Through technological evolution, companies began to depend heavily on new ideas, whose origin is closely associated with science and technology.

As technology advances, organisations tend to adapt, making it imperative to modify the entire organisational chain. One of the main foundations for development and advancement on knowledge management field is Artificial Intelligence (AI). AI *“is one of the most advanced technologies in the world”* (Moudud-UI-Huq, 2014, p.17). Moreover, the digital transformation dependence on AI developments is crucial as it can help companies accelerate their digitisation processes. AI emphasises the creation of intelligent machines that perform and react like humans, including speech recognition, learning planning and problem solving (Moudud-UI-Huq, 2014).

AI began with expert problem-solving systems development (Melchert et al., 2004). However, for Chen (2019, p. 42) *“the adoption of AI is a continuous nature in the sense that the extent of its adoption across business activities may change over time”*.

AI systems are increasingly important for accounting and business management. In this sense, AI can influence information systems quality and financial information usefulness in economic decision-making (Moudud-UI-Huq, 2014; Nicolaou, 2000; Mirzaey et al., 2017).

Given their importance in decision-making, this study takes technology dominance theory as its theoretical lens, which argues that intelligent systems should be used to help improve decision-making (Sutton, et al., 2016). On the other hand, it considers that accounting epistemology importance is based on the differences in thinking and approaches that lead to debate and development of new processes and knowledge (Arnold & Sutton, 1998). This suggest that stakeholders of accounting information use the same system and learn in the same way in the sense of diversity of thought for a new epistemology creation (Sutton, et al., 2016).

According to Baldwin et al. 2006, p. 78), *“the research on AI in accounting has almost exclusively been undertaken by accounting researchers”*. In fact, in literature review, we did not identify empirical studies that analyse AI influence in financial information quality and decision-making success.

Considering this gap, this study aims to analyse the impact of AI adoption and quality of information systems on Financial Information Quality and decision-making success. This study is relevant to literature development, as it develops and evaluates an original model based on technology dominance theory, and to managers, in the sense that it identifies factors that can contribute to Portuguese companies' success.

This paper is structured as follows: the next section introduces the main topics related to empirical research and presents theoretical model and investigation hypotheses. The following sections develop procedures and samples used to test research hypotheses. In the penultimate and last section, empirical findings, research conclusions and their implications are presented.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

As technology advances, organisations tend to adapt to new business environments. In the adaptation process, managing knowledge is a key role for a successful transformation of individual and organizations knowledge (Liebowitz, 2001). Liebowitz (2001) refers that knowledge management is a promising area which is gaining attention by both company and government. Liebowitz (2001) adds that one of the main foundations for knowledge management advancements is AI, which is neglected by many professionals empowered to make decisions. In this sense, AI research has been oriented towards the Knowledge-Based Systems development (Okubo et al., 1994).

Information technology capabilities are important in determining IA intensity, which in turn influences organisational performance (Nwankpa & Datta, 2017).

Companies leverage their existing technology capabilities to drive AI intensity, and these are more adept at ensuring performance returns (Nwankpa & Datta, 2017). However, when investments in IA do not complement existing technological capabilities, IA intensity appears to dampen performance (Nwankpa & Datta, 2017).

AI use in business management began with the development of specific systems to solve problems related to measuring a company efficiency and performance, as well as to facilitate decision-making process (Melchert et al., 2004). Mirzaey et al. (2017, p. 3523) state that information based on AI *“with capabilities such as learning, prediction, classification, and extension can be considered as a solution may be considered as a support tool of management accounting”*. For instance, Naranjo-Gilet et al. (2019) study states that accounting digitalization, acting through a prospecting strategy, has an indirect effect on performance which may be favourable depending on organization business strategy (Gullkvits, 2011).

According to Lam (Lam, 2004) accounting research is focused on AI technologies and techniques and in the success of tasks related to financial reporting preparation and analyses.

Accounting process is supported by applications designed to process large volumes of data (Mirzaey et al., 2017). According to O'Brien and Marakas (2011) and Okubo et al. (1994), an information system can be defined as any combination between people, hardware, software, communication networks, databases, policies, and procedures that store, retrieve, transform and disseminate information in an organization. These authors add that information systems are vital components for companies to be successful and they can be integrated into various areas, such as in areas of accounting, finance, operations management, marketing, human resources management, in other words, in any administrative area.

For Sari et al. (2019), information systems should present the necessary information to stakeholders, so that they can make the best decisions and, in this way, create company value.

Information system integrates various systems, such as accounting information system (Hla & Teru, 2015). Accounting information system refers to “a computer-based system that increases control and enhances corporation in an organization” (Nguyen & Nguyen, 2020, p. 976). According to (Sari et al., 2019, p. 93/94), the function of accounting information system “is to provide essential information to reduce uncertainty, support decision making, and encourage better planning, scheduling and control of work activities”. For Monteiro et al. (2022, p. 4), the “Accounting Information System Quality as the capacity of the system to process and convert a large amount of data into quality information (financial and non-financial), with value-relevance to the decision-making process and to development of the company's activities efficiently and effectively”.

Mirzaey et al. (2017) analysed the function of artificial neural networks, as a powerful tool to analyse complex information for decision-making. Through their study, authors realized that the use of computing technique type can improve effectiveness of accounting information system. On the other hand, Moudud-UI-Huq (2014) mentions that AI is applied to various decision-making theories related to auditing and assurance problems. Nevertheless, Baldwin et al. (2006) refer that more complex AI applications can be created to solve some auditing problems. In this way, literature suggests that AI adoption intensity has impact on information system quality. In view of the above, the first research hypothesis is formulated:

Hypothesis 1: *AI adoption intensity positively influences Accounting Information System Quality.*

According to the literature, Financial Information Quality is considered an outcome of accounting information system design.

Fitriati and Susanto (2017) analyse whether accounting information system contributes to financial information quality and verify that this variable improvement depends on the company accounting information system quality. For Sari et al. (2017, p. 94), “*quality of accounting information system has implications for the accounting information quality*”. Other authors highlight the same findings, i.e., that accounting information system quality influences the financial information reporting quality (Sari et al., 2017; Muda et al., 2018). In addition, Rashedi and Dargahi's (2019) research show that accounting information systems have an impact on Financial Information Quality, from accounting/finance clerks' perspective and other employees of public and private universities. According to accounting framework, financial information is useful when it meets the qualitative characteristics of information. In this sense, Nicolaou (2000) argues that information systems effectiveness can have an impact on organisational performance, user' information satisfaction and the information for decision-making usefulness. Following this context, the second research hypothesis is presented in this study:

Hypothesis 2: *Accounting Information System Quality positively influences Financial Information Quality.*

Information systems, namely accounting information system, provides useful information to stakeholders and it is a crucial instrument to creating value in organizations (Sari et al., 2019). On the other hand, Malo-Alain et al. (2019) state, based on literature review, that absence of Financial Information Quality may jeopardize decision-making success

According to Mirzaey et al. (2017, p. 3523) information based on AI can be considered as a solution may be considered as a support tool of management accounting. Thus, the intensity of AI adoption can influence the quality of financial information. Therefore, the last hypothesis of this study is formulated as follows:

Hypothesis 3. *AI adoption Intensity positively influences Financial Information Quality.*

Figure 1 displays the proposed hypotheses.

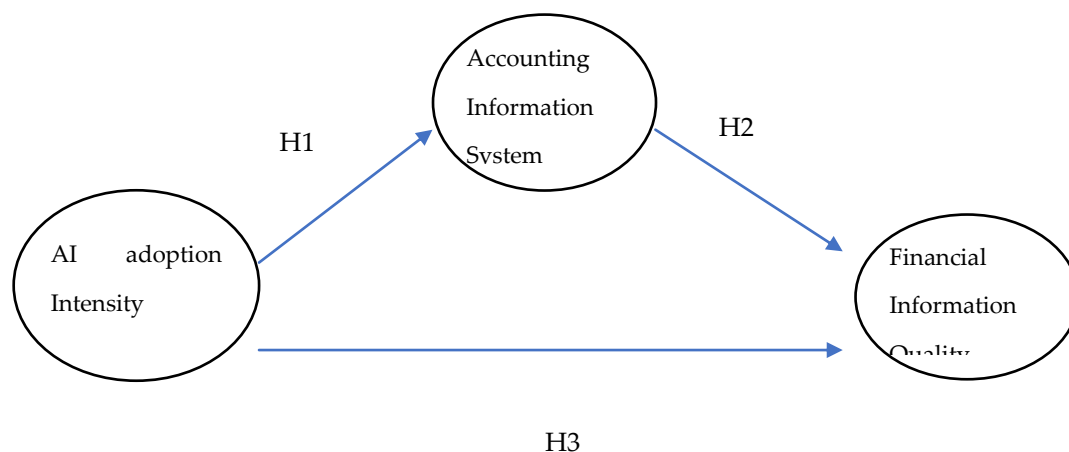


Figure 1. Theoretical model and research hypotheses

3. METHODOLOGY

Survey-based research was performed to evaluate proposed theoretical model. A survey, by questionnaire, was addressed to Portuguese companies' managers.

The questionnaire is divided into 3 parts. The first part includes questions that allow characterising the sample and the remaining five parts include items that allow assessing five model dimensions (AI adoption Intensity, Accounting Information System Quality, Financial Information Quality).

In this research, we used validated measurement scales or scales adapted from previous studies. For each item/statement of the highlighted dimensions in the proposed model, answers were

scored using a 5-point Likert scale, where 1 corresponds to "*strongly disagree*" and 5 corresponds to "*strongly agree*".

We measured the Accounting Information System Quality using Soudani's (2012) and Phornlaphatrachakorn's (2019) measurement scale, respectively. For measuring AI adoption Intensity, we used Chen's (2019) and Sun's et al. (2018) research. Finally, Financial Information Quality dimension follows the scale of measurement used by Dornier (2018), except for one item that also resulted from pre-testing the questionnaire ("Financial information represents, in a reliable way, what you want to portray.").

The sample selection process was carried out on SABI database, applying the following 5 filters: (1) all companies with an e-mail address Portugal; (2) last number of employees: minimum 50; (3) companies with audit; (4) companies, whose legal form is: sole proprietorship, foreign entity, anonymous company, limited partnership, limited liability company and sole proprietorship by quotas; and (5) active companies. SABI database generated a list of 7,812 Portuguese companies. Despite being a substantial number, it was opted to apply the survey to all companies instead of limiting the study to a country region or district. This option is due to the fact that this study is applied to company managers and there is likelihood of obtaining a low response rate.

A survey was applied online and the link to it was sent by email to companies and addressed to persons who makes the main decisions (managers). In the period from 2 to 31 March 2020 emails were sent (total 7799 emails). During the mentioned period, 389 observations were obtained. However, 8 observations were eliminated for not being complete. Given the high number of Portuguese companies, it is opted for a non-probabilistic sample, which is practice in scientific studies that cover a large population (Monteiro et al., 2022; Monteiro et al. 2021; Cepêda & Monteiro, 2020; Montenegro & Rodrigues, 2020).

Data analysis encompasses three phases: (1) preliminary data analysis, (2) measurement model evaluation, and (3) structural model evaluation. First phase is performed on SPSS software. Second and third phase is conducted on SPSS Software Amos.

4. EMPIRICAL FINDINGS

4.1 Sample characteristics

Regarding companies' distribution by district, 111 (29.1%) companies are in Lisbon district, 67 (17.6%) in Porto and 41 (10.8%) in Aveiro district. These 3 districts represent 57.5% of the sample. Therefore, 42.5% of companies are spread across the other 14 districts or autonomous regions. As to typology, 197 (52%) are public limited companies, 121 (32%) private limited companies, 17 (4%)

single-person limited companies. However, 46 respondents selected the option "Other" which represents 12%.

About the branch of activity, 160 (42%) companies are involved in services provision, 126 (33%) and 43 (14%) are engaged in industrial and commercial activities, respectively, and 42 (11%) of the respondents selected the option "other", to indicate that they work in companies linked to tourism (1), insurance (1), civil construction (2), floriculture (1), goods transport (1) and banking and insurance (1).

As company accounting is provided, 250 (65.6%) respondents mention that they hold the service in-house and 69 (18.1%) mention that they outsource the accounting service. However, 62 (16.3%) of companies mention that they have both services, i.e. they have a department in-house, but continue to subcontract the service externally.

4.2 Structural equation model

A preliminary data analysis was performed (missing values and outliers, the central and dispersion tendencies and the data for normality, sample size and non-responses bias). This previous analysis was used to prepare data to SEM analysis. Data analysis used SEM encompassed the assessment of measurement model and the assessment of structural model.

In the analysis of measurement model, a confirmatory factor analysis was performed to validate measurement scales using the maximum likelihood estimation method. This method produces more reliable estimates when using covariance matrices (Byrne, 1998) and it is more widely used in most statistical packages, such as in AMOS (Ainur et al., 2017). According to Diamantopoulos and Siguaw (2000), this method is robust against moderate of the violations of the assumptions of normality (Marôco, 2010), as is the case in this study.

Measurement model results evaluation are illustrated in Table 1. In the first-order models, all items related significantly to factor in terms of loadings, thus confirming the single factor unidimensionality. All loadings of observed variables have values above .60, confirming the convergent constructs validity (Garver & Mentzer, 1999) The average variance extracted (AVE) is greater than .50, which demonstrates the existence of discriminating constructs validity (Fornell & Larcker, 1981) Regarding to composite reliability, we certificate that all latent variables present values greater than .60, which proves scale's reliability (Bagozzi & Yi, 1988).

Construct	Sc
AI adoption intensity (CR = 0.97, AVE = 0.83)	
The company has implemented AI in all business processes.	.745*
The implementation of AI had a high impact on business operations	.950*
The implementation of AI, considering its potential for the company's business, was an extensive process.	.945*
The AI implementation allowed business processes to be substantially changed.	.947*
Accounting Information System Quality (CR = 0.917, AVE = 0.610)	
The data processing caused the improvement of the quality of the financial reports.	.864*
The automated data collection speed up the process to generate financial statements.	.758*
The automated data collection speed up the process to generate financial statements and overcome human weaknesses in data processing.	.744*
The automated data collection provides a platform with access to information, which facilitates the use of it.	.752*
Financial Information quality (CR = 0.90, AVE = 0.56)	
The accuracy of financial information helps decision-making.	0.724*
Financial information is carefully prepared to ensure its reliability.	0.831*
Financial information is easily understood by its user.	0.719*
Financial information represents, in a reliable way, what you want to portray.	0.723*

Notes: Sc, Standardized coefficients; CR, composite reliability; AVE, average variance extracted.

*Correlation is significant at the 0.001 level

Table 1. Measurement model results

4.2.2 Structural model assessment

Table 2 presents the standardized coefficients, value of t and the significance level for each hypothesis postulated in the model, as well as the determination coefficient for each construct. Our results show that AI adoption Intensity has a positive impact in Accounting Information System Quality ($\beta=.245$; $p<.001$) and Financial Information Quality ($\beta=.137$; $p<.001$). Finally, Accounting Information System Quality positively affects Financial Information Quality ($\beta=.504$; $p<.001$). In this study, all hypotheses are supported. Model variables contribute to 32% of the dependent variable variance.

Parameters	H	Cs	p-value	R2
AI adoption intensity - Accounting Information System Quality	H1	.245	***	0.06
AI adoption intensity- Financial Information Quality	H2	.137	***	0.32
Accounting Information System Quality- Financial Information Quality	H2	.504	***	

Notes: Sc, Standardized coefficients; H, Hypothesis; ***Correlation is significant at the 0.001 level; *Correlation is significant at the 0.01. (Model measurement: $\chi^2=101,83$ (45), $p=0.00$, CFI = 0.983, NFI = 0.971, RMSEA = 0.05).

Table 2 - Research findings model

Table 3 presents the standardized effects direct, indirect, and total. We find that AI adoption intensity has direct impact on Accounting Information Systems Quality and Financial Information Quality. On the other hand, the Accounting Information System Quality variable is a mediating variable in the relationship between AI adoption Intensity and Financial Information Quality, enhancing this relationship ($\beta=.124$). Our results, according to do technology dominance theory allow us to conclude that AI adoption Intensity and Accounting Information Systems Quality improve the Financial Information Quality.

Effects	Constructs	AI adoption intensity	Accounting Information System Quality-
Direct	Accounting Information System Quality	.245	.000
	Financial Information Quality	.137	.504
Indirect	Accounting Information system quality	.000	.000
	Financial Information Quality	.000	.000
Total	Accounting Information System Quality	.124	.000
	Financial Information Quality	.000	.000

Table 3. Direct, indirect and total effects of the theoretical model

5. CONCLUSIONS AND DISCUSSION

Accounting domain has a history of AI applications going back more than three decades, but the relationship between AI and accounting development is still not well understood (Baldwin et al., 2006). With theoretical lens on technology dominance theory, this research has the purpose of analysing the relationship between AI adoption Intensity, Accounting Information Systems Quality and Financial Information Quality.

Based on a sample of Portuguese companies' managers, we find that AI adoption Intensity has positive impact on Accounting Information System Quality. Our conclusions allow us to support the H1 and they are consistent with the arguments of Baldwin et al. (2006), Moudud-UI-Huq (2014) and Mirzaey et al. (2017). Furthermore, Accounting Information Systems Quality positively contributes to Financial Information Quality, in the same vein as previous studies (Nicolaou, 2000; Sari et al., 2016; Muda et al., 2018, Rashedi & Dargahi, 2019; Monteiro et al., 2021). Thus, the H2 is supported in this study. Finally, we verify that AI adoption intensity directly influences Financial Information Quality, in accordance with to Mirzaey et al. (2017) and Malo-Alain et al.'s (2019) studies. Our finding allows us to give statistical support to the last hypothesis formulated for this study (H3) and conclude that intelligent systems should be used to help improve information systems and

Financial Information Quality and these can be determinant for decision-making, as dominance theory defends (Sutton, et al., 2016).

This research covers a literature gap since it empirically analyses the significance of AI implementation and information for financial information usefulness and business success from Portuguese companies' managers perspective. In addition, this study can help companies accelerate the digitisation process and contribute to economy digitisation.

Regarding this study limitations, the use of a sample for convenience and non-probabilistic is the main limitation and it restricts results generalization. Another limitation verified in this study is related to model measures, which indicate some problems in their adjustment. Future research, to improve the model adjustment, should apply technology-intensive industries or another measurement scale for AI adoption intensity, although validity and reliability of this scale has been verified. We also suggest that the study be applied to other countries to compare results in similar contexts, despite differences inherent to each country.

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CSE – AN ALL-INCLUSIVE BUSINESS MODEL FOR GENERATIONS TO COME

O’Gorman, Bill¹; Somers, Carmel²; de Almeida Jardim, Margarida³; Klemkaite, Lina⁴;

Feenan, Dave⁵; Manickam, Anu³

¹Centre for Enterprise Development and Regional Economy, South East Technological University, Waterford, Ireland

²Human Capital Strategist, Technology Ireland ICT Skillnet, Dublin, Ireland

³Centre of Entrepreneurship and International Business, Hanze University of Applied Sciences, Groningen, The Netherlands

⁴Dramblys, Albacete, Spain’

⁵Network Management, Technology Ireland ICT Skillnet, Dublin, Ireland

ABSTRACT

Purpose: The purpose of this paper is to explore Corporate Social Entrepreneurship as an all-inclusive business model to support organisations as they aim to deliver shareholder value “profit”, through entrepreneurship, while also doing good for society. This model supports the growth of innovative and entrepreneurial skillsets as organisations work together to achieve both corporate and social goals. This paper presents the journey, the pathway, the process, tools and techniques that will enable organisations to successfully progress from a starting point of Corporate Social Responsibility (CSR) to Corporate Social Entrepreneurship (CSE).

Design/Methodology/Approach: CSE includes: creating an enabling entrepreneurial environment, fostering corporate social intrapreneurship, amplifying corporate purpose and values as well as building strategic alliances in order to solve economic and social problems and to promote the success of emerging innovative business strategies. Therefore, the EMBRACE project partnership conducted research in 34 countries involving the analysis of 75 organisations, 41 interviews with company managers (25) and experts (16) and 220 responses to an on-line survey.

Findings: Through the research undertaken the EMBRACE project partnership determined the need for a European Corporate Social Entrepreneurship Curriculum (ECSEC) to support educators, corporate learners and learners in general in the competencies and skills associated with a role in CSE. A competency framework was established covering four CSE person profiles and learning materials developed which will be hosted on an online education platform (cselab.eu) offering modules and courses designed to train individuals for each CSE proficiency level, as well as a model for curriculum development, suitable at EQF levels 5 through 7. The fundamental purpose is therefore to accelerate companies’ organisational

transformation into a more powerful generation of societal betterment (Austin and Reficco 2009, p.2).

Originality/Value: Because CSE is a relatively new concept, organisations engaging in CSE activities do not refer to them as such. In many cases these activities are referred to as CSR or an internally devised name. Therefore a goal of this project is to establish a sustainable environment that facilitates the exchange, flow and co-creation of knowledge between HEIs, enterprises, organisations (public, private and third sector); resulting in the creation of new business opportunities dealing with social change addressing social issues aligned with the Sustainable Development Goals and addressing environmental, social and governance requirements facing today's organisations.

Keywords: CSE, CSR, socioeconomic development, entrepreneurship, intrapreneurship, society, community, inclusivity, sustainability

INTRODUCTION

This paper explores the concept of Corporate Social Entrepreneurship (CSE) and the need for a transition to a more social, economic, and environmental 'way of doing business'. According to Austin and Reficco (2009), CSE is not just another form of Corporate Social Responsibility (CSR), but a process for advancing and evolving the development of CSR. To achieve this transition, it is imperative to prepare future entrepreneurs and current businesses to foster the power of entrepreneurship to address societal issues. Hence, the European Corporate Social Entrepreneurship Curriculum (ECSEC) developed by the EMBRACE project partnership is a step in the direction to equip the younger generation, learners in general, business people and educators to navigate through these new complex, chaotic, and uncertain organisational systems. EMBRACE is a three-year initiative funded within the framework of ERASMUS+, Knowledge Alliances programme. The project aims to promote CSE in Higher Education Institutions' (HEI) educational programmes. The goal is to improve young people's competences, employability and attitudes contributing to the creation of new business opportunities dealing with social change inside companies, as well as promoting collaboration among companies. (for further details see <http://csebrace.eu/> and www.cselab.eu).

Corporate Social Entrepreneurship (CSE) is an emerging concept, concerning new practices. Therefore, inevitably there are still ambiguities and discussions regarding the meaning, relevance, and application of the concept (Couto, Parente, Cruz, Castro and Alegre, 2020). CSE has emerged based on the requirement for businesses to become more socially aware and committed to addressing societal needs and global Sustainable Development Goals (SDG). It is an evolution and the next step from

Corporate Social Responsibility (CSR) (Bowen, 1953; Azevedo and Carlos, 2015). CSE embodies characteristics of *corporate entrepreneurship* and the characteristics of *social entrepreneurship*.

THE PATH TO CORPORATE SOCIAL ENTREPRENEURSHIP (CSE)

To best grasp the concept of Corporate Social Entrepreneurship (CSE), one needs to understand its origins and the pathway leading to CSE. The concept is considered the evolution and next stage of Corporate Social Responsibility (CSR) (Bowen, 1953; Azevedo and Carlos, 2015), building upon a series of other concepts and embodying relevant characteristics from these (see Figure 1).

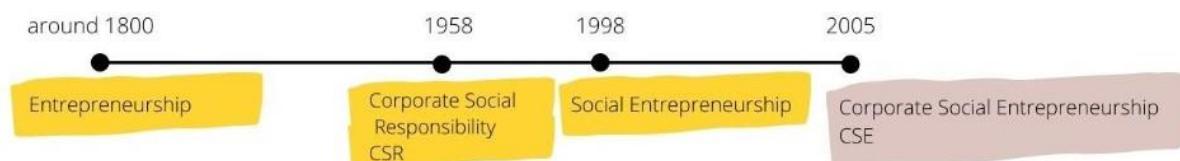


Figure 1. Timeline of broader concepts (EMBRACE, 2020)

CSE emerged from the pressing social and environmental challenges faced, posing risks to society's well-being and existence as well as addressing the constantly changing environment of business. In addressing these challenges, it is important to understand the fundamental purpose of CSE and the differences between CSE and CSR. Table 1 summarises these differences, where it can be seen that CSE is a more embedded inclusive fundamental process (it is a "way of doing business") that permeates throughout the whole of organisations be they public, private or third sector organisations.

CHARACTERISTICS of CSR versus CSE	
CORPORATE SOCIAL RESPONSIBILITY (CSR) to CORPORATE SOCIAL ENTREPRENEURSHIP (CSE)	
The focus is on corporate image	→ The focus is on being embedded in society
Reduce negative impact	→ Maximise outcomes and effectiveness
Top down driven	→ Permeates throughout the organisation
Controlled by budgets and resource availability	→ Based on what is of benefit to all
Apply existing business mindset	→ Engage an entrepreneurial mindset
Incremental Innovation	→ Disruptive Innovation
Core business function model	→ Transformational, interdependent business models
Existing markets	→ New market opportunities
Focus on the present	→ Focus on the future
React to challenges/situations	→ Proactively seeking new challenges/opportunities
Organisational vulnerability	→ Organisational Resilience
Reaction to community demands	→ Is embedded in community

Embrace, 2022

Table 1. Differences between CSR and CSE (Source: EMBRACE, 2022)

Understanding Corporate Social Responsibility (CSR)

CSR can be understood as being “a concept whereby companies integrate social and environmental concerns in their business operations and in their interactions with their stakeholders on a voluntary basis. It opens up a way of “managing change and of reconciling social development with improved competitiveness.” (CEC, 2001, p.7). In other words, CSR delineates the contributions organisations make to society and/or local communities. These contributions can be embedded in the core business, or on the basis of targeted activities to support society. Examples vary from sustainable or ethical (manufacturing) processes and/or products, adopting progressive human resource management practices or supporting not-for-profit initiatives.

There are several terms used to describe CSR in academic literature and on company websites, including, Social Responsibility (SR), and Corporate Citizenship (CC). This results in a range of broad working contexts for CSR. Although McWilliams, Siegel, and Wright (2006) noted that regardless of the terminology used, each one of these refers to how a company goes beyond its remit so that their well-intended actions further some social good, beyond the interests of the firm itself. Essentially, CSR entails the contribution an organisation makes to their local community or to society in general. However, there is a consensus among a number of articles that establishing a CSR strategy can create a number of business benefits, including staff engagement and retention, improved productivity and innovation, opening up new markets and greater brand awareness and reputation. To go beyond surface-level initiatives for sustainability or corporate philanthropy, leaders in organisations need to form collaborative relationships with employees, stakeholders, clients, partners, academia, government and society to address critical societal issues of the present and the future.

The Theoretical Foundations of CSR

To understand CSR, it is helpful to be aware of the theories which underlie it as these foundational theories also impact the theoretical framework of CSE. CSR is generally categorised into four main theoretical areas: the first two are *Shareholder Value* and *Stakeholder* theory stem from economic theory, the third *Corporate Social Performance* theory evolved from sociology, and the fourth *Corporate Citizenship* theory originates in political science. For example, *Shareholder Value* theory (SVT) holds that the only social responsibility of business is to increase its economic value for shareholders by making a profit. Additional social activities are acceptable only if they increase shareholder value, or if they are required by law (Friedman, 1970). *Stakeholder theory* defines stakeholders as individuals or groups with a "stake" in the company, whether they are beneficiaries or can be adversely affected by the company. Evan and Freeman (1988) formulated stakeholder theory based on two ethical principles; the 'Principle of Corporation Rights' (P1) and the 'Principle of Corporation Effects' (P2). The former establishes that corporations should serve their customers, suppliers, owners, employees, and local communities and each of these groups should have the opportunity to participate in decisions

affecting their welfare, and their rights must be protected. The latter implies that the corporation's management bears a fiduciary responsibility to stakeholders and must act in their interest as well as that of the corporation.

Corporate Social Performance theory evolved from several approaches building on theories by (Sethi, 1975; Carroll, 1979; and Preston and Post, 1981). Carroll first introduced the concept of corporate social performance outlining a set of four obligations an organisation has to society; economic, legal, ethical and philanthropic and created the 'Pyramid of Corporate Social Responsibility'. *Corporate Citizenship* theory has its roots in political science where 'citizenship' is at the core of the concept and reflects the participation of business in society and, as noted by (Matten, Crane and Chapple 2003), business has its rightful place in society, next to other 'citizens' with whom the corporation forms a community. Corporate citizenship is concerned with both the ethical and social responsibilities of business as well as its role in protecting and respecting human rights. According to (Gardberg and Fombrun, 2006), corporate citizenship activities have a global reach, enhancing an organization's reputation, and can achieve long-term financial results since they are in fact strategic investments.

These theories can all be used to explain what companies are doing in the area of CSR. However, in practice, companies follow different models. According to (Melé, 2008), a strong normative theory is necessary with a solid philosophical foundation for it to be truly effective. It must reflect a perspective on humanity, business, and society. Therefore, it should be noted that each of the theories presented has a different philosophical foundation, as well as both positive and negative attributes. The core foundation of CSE involves aligning humanity, business and society to address and find solutions for what are often complex societal challenges.

The reason for CSE

The concept and practice of CSE is very valuable as a next step in the work of CSR and addressing contemporary challenges. CSE is built upon the idea that a business can enhance their CSR by changing the way a company operates with a few central elements: creating an innovative and enabling environment, highlighting corporate values and purpose, and building alliances to produce double value (Austin and Reficco, 2009; Agrawal and Sahasranamam, 2016). However, CSE is an embryonic concept which offers the potential for making powerful forms of CSR; it is also a combination of entrepreneurship and social value creation (Agrawal and Sahasranamam, 2016) which is in line with shared value, as a new approach for improving the relationship between business and society (Porter and Kramer, 2011; Michelini and Fiorentino, 2012). It is the new, refreshed and updated version of CSR, "the face of new avatar of caring capitalism in the present scenario" (Tiwari, 2015, p. 12).

The environment of businesses is faced with changes driven by geo-politics, climate and financial crises, a global pandemic, threats to democracy and increased disinformation. These changes demand new leadership and business models which promote resilience in organisations. Moreover, the Sustainable Development Goals (SDGs) follow the Millennium Development Goals (MDGs), expanding the challenges that must be addressed to cover a wide range of interrelated topics, in the economic, social and environmental dimensions of sustainable development. For the implementation of the 2030 Agenda on the SDGs, it is urgent that organisations integrate these goals in their decision-making and that they contribute with their power of innovation for a more sustainable and inclusive future. There is a clear need for new types of interactions and commitments suitable to the ever-changing context of business and society (Uhl-Bien and Arena, 2017). CSE supports these activities by building the resilience organisations need to 'future-proof' themselves and become adaptive and address these SDGs.

As highlighted in the "Handbook for Corporate Social Entrepreneurs" (EMBRACE, 2021), CSE is a rather new concept which can be confused with CSR. Austin and Reficco (2009) argued that CSE is, in fact, a process that allows and enables businesses to produce more advanced forms of CSR. CSR, in fact, can be considered as a subset of CSE. CSE entails the pursuit of initiatives with social and environmental ends while taking into account the economic responsibilities of organisations. In contrast to CSR, CSE specifically requires entrepreneurial action and innovation as driving forces, going beyond the ongoing societal engagement of organisations to entail the identification of opportunities to create future goods or services that address social and environmental challenges (EMBRACE, 2021). Venn, R. and Berg, N. (2013) described social intrapreneurship (a concept that can be used interchangeably with CSE) as an entrepreneurial activity that merges social impact creation and commercial growth. They put it forward that social intrapreneurship in for-profit organisations creates pioneering solutions to complex social problems, spanning internal and external boundaries between divisions, organizations and sectors to achieve mutual value. According to (Haski-Leventhal, Glavas, and Roza, 2020), CSE is a hybrid concept, mainly based on two previously developed concepts: social entrepreneurship and intrapreneurship. Due to the novelty of the concept, a common definition of CSE has not yet been agreed upon. However, the EMBRACE project team, based on research conducted in 34 countries involving the analysis of 75 organisations, 41 interviews with company managers (25) and experts (16) and 220 responses to an on-line survey, define CSE as:

"A way of doing business' so that all staff in any given organisation (public, private or third sector) are fully aware of their role, responsibility and contribution to the sustainable socioeconomic enhancement of their organisations and the communities in which they live and work. The CSE process includes: creating an enabling

entrepreneurial environment, fostering corporate social intrapreneurship, amplifying corporate purpose and values as well as building strategic alliances in order to solve economic and social problems and to promote the success of emerging innovative business strategies” (EMBRACE, 2021, p.10).

As today’s business landscape is increasingly influenced by the evolving pressures and preferences of consumers, regulators, and other stakeholder groups, not to mention the impact of ongoing COVID-19 pandemic, CSE plays an integral role in helping firms remain competitive and find new growth opportunities. In this sense, we can argue CSE is the new CSR, a step forward for the post pandemic re-launch of local economies. The EMBRACE project uses its CSE curriculum to equip younger generations with the skills and competences to empower them to be major contributors is addressing societal need within the organisations within which they will work.

THE JOURNEY FROM CSR TO CSE

The journey from CSR to CSE is depicted in Figure 2. The progression is achieved by shaping corporate social entrepreneurs through both education and practice. To progress from organisations with strategies reflecting CSR responsibilities (philanthropy, economic, legal, and ethical) to organisations with missions and strategies reflecting the CSE responsibilities (entrepreneurial, innovative, ecological, social, ethical, legal, and economic) in transversal and long-term activities, as depicted in Figure 2, individuals need a unique set of skills and competences. In specific terms, skills and competences that fuel an organisation with entrepreneurial endeavour and innovative value providing inspired self-sufficiency and sustainability in its community; which leads to a sustainable all-inclusive business model for generations to come.

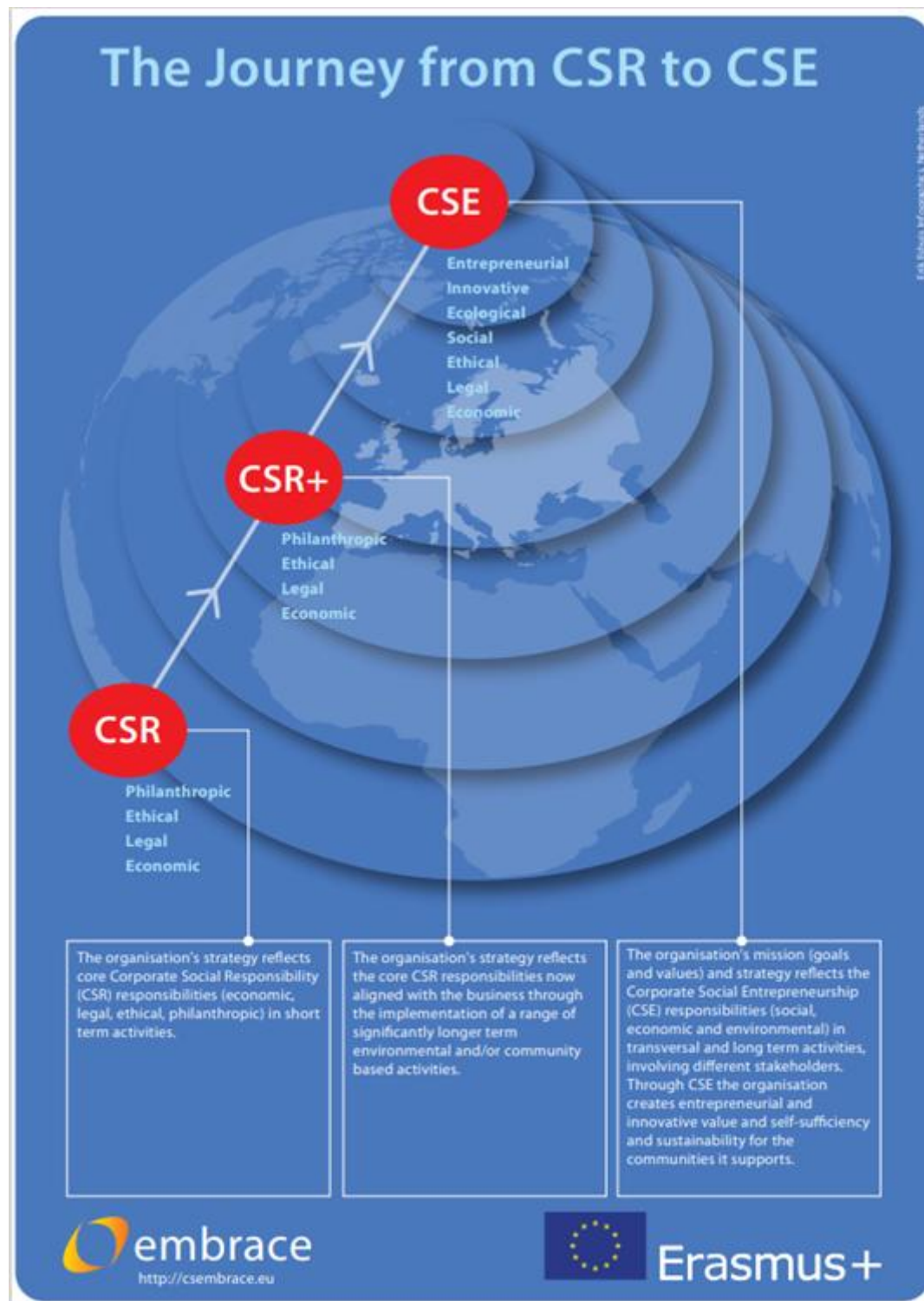


Figure 2. The journey from CSR to CSE (source: EMBRACE, 2022)

Considering that CSE is still a relatively new concept at its preliminary stages of development, the EMBRACE project team found that only 2 out of 602 HEIs reviewed offer CSE specific courses (EMBRACE, 2020); and that the concept of working as a change agent within companies to create value is increasingly more present in MBA curricula and for executives (Malinsky and McGaw, 2019); and also that the Corporate Social Entrepreneur has been defined as an individuals who is eager to

bring social change in their respective communities, regardless of their position in the company, and carries a specific set of skills (EMBRACE, 2021). This enabled the EBRACE project team to the develop of a multidisciplinary European Corporate Social Entrepreneurship Curriculum (ECSEC) (see www.csebrace.eu and www.cselab.eu).

Specifically, the ECSEC has been developed by the EMBRACE project partnership, with the aim to increasingly include CSE as part of business education as early as undergraduate level and all levels within organisations from operatives to senior executives; and to equip the younger generation with the competences and skills that will empower them to be major contributors to business models for generations to come. The ultimate goal is to assist in the progress and implementation of embedding CSE as a norm in organisations (public, private, and third sector) context to address SDGs while at the same time supporting the generations of excess income over expenditure in the organisation.

The corporate social entrepreneur

As aforementioned, the corporate social entrepreneurs are individuals who are motivated to bring social change to their community, and working environment, and are valuable because they contribute with a unique set of skills complementary to the traditional business management skills (EMBRACE, 2021). The nature of CSE has been established as progression from CSR and the combination of corporate entrepreneurship and social entrepreneurship. Hence, the corporate social entrepreneur can be “*characterized by a mind-set to strive for societal value creation in a persistent, learning and outreaching manner and apply the skills of entrepreneurship and communication*” (Grayson, McLaren and Spitzack. 2014). Put simply, the social corporate entrepreneur carries a combination of traits of a social entrepreneur and corporate entrepreneur, combining not only the ability of pursuing and exploring opportunities in an innovative way but also the ability to incorporate social and environmental concerns, values and impact at the core of their business (EMBRACE, 2022).

Based on the research conducted, the competences of a corporate social entrepreneur were defined on the basis of the above, leading to the development of a curriculum that equips individuals with the necessary skill set and competences to pursue CSE.

Readying corporate social entrepreneurs

Four proficiency levels were identified for CSE: *Novice, Intermediate, Professional and Expert*; each reflecting the role of CSE the professionals will take in their organisations (see www.csebrace.eu and www.cselab.eu). The *Novice* corporate social entrepreneur has basic awareness of the concepts and potential of implementing CSE in their organisation. The *Intermediate* corporate social entrepreneur is an individual who may not be a business professional but has an understanding of CSE and is able to identify and apply CSE strategies in practice. The *Professional* corporate entrepreneur is one who is

immersed in business knowledge and/or practice, with specialised knowledge in CSE enabling them to identify, design and implement purposeful business propositions. Finally, the *Expert* corporate social entrepreneur, and the highest CSE profile, is able to design, facilitate and realise CSE strategies and mobilise others to address those strategies (EMBRACE, 2021). The EMBRACE project partnership has developed an online education platform (www.cselab.eu) offering modules and courses designed to train individuals for each CSE proficiency level.

CSE, AN ALL-INCLUSIVE BUSINESS MODEL FOR FUTURE GENERATIONS

Organisations which transition to CSE can build, align or merge their philanthropic business model with their core business model. True benefit comes when the organisation's commercial and philanthropic purposes and values are strongly aligned. As noted CSE thrives when the activities the organisation undertakes are aligned with the purpose and values of the organisation. This allows everyone in the organisation to participate and for CSE to permeate throughout the organisation. CSE has entrepreneurship at its core and requires the organisation and its employees to engage a creative mindset to bring entrepreneurial and innovative solutions to bear in addressing societal challenges. This requires the organisation to look at the challenge using different lenses which may bring other requirements to the fore or require new ways of working. An example from the EMBRACE project saw the need for a data analytics platform to be designed and built for an NGO. A key requirement was that the platform would have ongoing low cost of ownership, would be easy to administer and maintain as the NGO lacked technical skills and, the platform needed to support the NGO to become a self-sustaining entity. These are not unheard of goals for a commercial technical engagements but the likelihood is that cost of ownership would be the only one of these items in the top 5 business requirements. This example provided genuine entrepreneurial and innovative challenges for the employees working on the project to overcome. In achieving the goal the skills competencies they developed can now be implemented on core business challenges. As organisations engage with social entities in CSE projects they foster new relationships with other corporate entities facilitating collaboration which can lead to new business/commercial opportunities; which in turn, can lead to new products, processes, markets and revenue streams. Therefore, engaging in CSE to develop solutions for societal benefit can result in new commercial engagements, but also solutions created for a societal benefit can be repurposed for the commercial market.

Today's younger generation in the workforce is driven to find meaning and purpose in the work they do and in the organisations they work for. An article by (Gartner, 2022) highlighted that employees are motivated when they are appreciated and can contribute to the organisation. Employees want acknowledgment, growth opportunities and to feel valued, trusted and empowered. They are looking

for a value proposition that puts them at the core of the organisation: asking employers to recognise their value and to provide value to them at a human level. This includes deeper relationships in the workplace, building a strong sense of community, and providing purpose-driven work. These key employee expectations are challenging leaders in all organisations public, private, academic and third sector to evaluate their future and purpose. At board level, leaders are defining strategies to incorporate the voices of society, clients, shareholders and employees, especially younger generation employees, into how they evolve their workplace and the work of their organisations. Adopting CSE projects to address societal challenges has the capacity to capture the hearts and minds of employees, especially younger generation employees, to create purpose and meaning. A study by (Kim & Kim 2020) draws attention to the importance of CSR to employees, in particular to how perceived management support for CSR has a positive impact on employee engagement, which can only be enhanced through an organisations engagement in CSE. The Sustainable Development Goals (SDG) are becoming more critical and organisations seek to embed solutions based on the goals in their business operations. In the same way aligning CSE with the organisation's core purpose and values and selecting societal challenges that align well with the organisation's core business operations will embed CSE into the organisation's business model and create an all-inclusive business model for the organisation and for current and future generations of the workforce.

IMPLICATIONS OF THE STUDY

Corporate Social Entrepreneurship (CSE) is 'a way of doing business' so that all staff in any given organisation (public, private or third sector) are fully aware of their role, responsibility and contribution to the sustainable socioeconomic enhancement of their organisations and the communities in which they live and work. Corporate Social Responsibility (CSR), on the other hand, is often understood as "a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis. (...) It opens a way of managing change and of reconciling social development with improved competitiveness." (CEC, 2001, p.7). Whereas there is an overlap between CSE and CSR and a similarity of concept, they are on very different trajectories. CSE is not just another form of CSR, it is a process for invigorating and advancing the development of CSR. CSE provides an approach that will accelerate the CSR journey. The fundamental purpose is therefore to accelerate companies' organisational transformation into a more powerful generation of societal betterment (Austin and Reficco 2009, p.2). CSE has the capacity and capability to empower younger generations to be major contributors to societal and environmental changes within organisational settings; and also to empower younger generations to reshape business models and paradigms for future generations.

The concept of CSE as an evolution of CSR to meet current needs and expectations of society of businesses to take ownership for urgent, complex challenges as good ‘corporate citizens’ plus the ‘business sense’ to create business opportunities in the process implies a need for business development and transformations. This, in turn, implies new competences for current and future leaders and staff are needed and therefore the offer of CSE curricula in education and trainings programmes. The study has also indicated the potential value of CSE to integrate overlapping and parallel areas of theory related to CSR and concepts of intrapreneurship, (corporate) entrepreneurship and social entrepreneurship in business and management fields.

CONCLUSION

In conclusion, based on our research to date, we argue that Corporate Social Entrepreneurship (CSE) can build resilience in organisations to ‘future proof’ themselves against, or at least be adaptive to manage unforeseen emergencies (such as pandemics and global economic crises), creating opportunities to cultivate, nurture, and catalyze systemic change within and outside their organisations; while at the same time empower younger generations to drive societal and environmental challenges.. Therefore, corporate social entrepreneurs need to embark on a leadership journey, cultivating, developing, and sustaining conditions whereby transformations take place. The European Corporate Social Entrepreneurship Curriculum (ECSEC) (see <http://csembrace.eu/>) and the CSE EduLab (see <http://csembrace.eu/>) will bring you on that journey. Although CSE is a relatively new concept our research highlights a number of important reasons why CSE can be an all-inclusive business model that supports an organisation in attaining its commercial business objectives while having a positive impact on society and addressing key societal issues. This has a direct positive impact on employee, as well as younger generation engagement and empowerment to do purpose driven work.

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INNOVATION CATALYTIC AGENT: THE MISSING LINK IN BALANCED SOCIOECONOMIC DEVELOPMENT IN REGIONS

O’Gorman, Bill¹; Donnelly, Willie²; Hayes, Richard³

¹Centre for Enterprise Development and Regional Economy (CEDRE), Waterford Institute of Technology, Waterford, Ireland

²President Emeritus, Waterford Institute of Technology, Waterford, Ireland

³Strategy Office, Waterford Institute of Technology, Waterford, Ireland

ABSTRACT

Purpose: This paper articulates and acknowledges the critical and central role of Science and Technology Parks (STPs) as catalytic agents in the balanced socioeconomic development of regions. The paper supports the argument that properly resourced STPs with highly competent staff have the capacity and capability to be innovation agents for progressing their catchment areas’ innovation system and inclusive, balanced socioeconomic development.

Design/Methodology/Approach: This paper is informed by an analysis of 40 STPs spanning a broad geographical area with 23 of the STPs based in Europe, 8 in North America, 7 in Asia and 2 in South America. This evidenced based research is also supported by the analysis of the responses to a survey sent to 54 key informants, a combination of enterprise founders, managers, practitioners, consultants and researchers knowledgeable about the roles, processes and functioning of STPs. The paper draws on an examination of over 46 peer reviewed journal articles and institutional publications related to the processes and practices of STPs and critiques and develops the analysis presented across this literature.

Findings: Successful STPs that are considered to be valued innovation catalytic agents in their communities are ones that are properly resourced with high-speed internet networks, excellent communications infrastructure, and have well trained staff capable of supporting entrepreneurs and enterprises to be able to assess new incoming ideas and projects and to “spot” new and emerging opportunities. The STP staff also needs to be motivated and willing to connect to and work with people with different mindsets to nurture the sustainable development of a vibrant entrepreneurial ecosystem.

Originality/Value: This paper, by uniquely reviewing publications and collating data on the critical success factors for STPs and Innovation hubs, a process not found in other publications, contributes to previous research in that it validates existing work that supports the concept of the importance of STPs as innovation catalytic agents in the communities and regions in which they are based. The paper also contributes to practice by identifying the critical success factors

of successful STPs and articulating the perceived needs that lead to the creation and location of STPs.

Keywords: innovation catalyst; regional socioeconomic development; science technology parks; collaborative engagement; technology/knowledge transfer; quadruple helix

INTRODUCTION

The concept of Science and Technology Parks (STPs) has been around since 1951 with the development of the Stanford Industrial Park. It was instigated by Stanford University's Provost and Dean of Engineering, Frederick Terman, and supported by Palo Alto's public authorities. Terman was convinced that having a business park as part of Stanford University, focused on research and development, would generate income both for the university and the community it served. Some of the early tenants, which are still well-known entities today, include Varian Associates, Hewlett-Packard, and Xerox's Palo Alto Research Centre (PARC). Together, these entities set the foundation for sustained transformational change in entrepreneurship and innovation that led to the phenomenon known all over the world today as Silicon Valley, a phenomenon that most national and regional economies try to emulate, with varying degrees of success.

However, almost three quarters of a century later, the debate among researchers, practitioners and policy makers remains as to the nature of the relationship between business parks and the regions in which they are located and on the veracity of claims that there is a cause-and-effect relationship between an STP in a given region and the balanced socioeconomic development of that region. This paper contributes to that ongoing debate by examining the case for positing a critical and central role for Science and Technology Parks (STPs) as catalytic agents in the balanced socioeconomic development of regions.

The paper is informed by an analysis of 40 STPs spanning a broad geographical area with 23 of the STPs based in Europe, 8 in North America, 7 in Asia and 2 in South America. This evidenced based research is also supported by the analysis of the responses to a survey sent to 54 key informants, a combination of enterprise founders, managers, practitioners, consultants and researchers knowledgeable about the roles, processes and functioning of STPs. The paper draws on an examination of over 46 peer reviewed journal articles and institutional publications related to the processes and practices of STPs and critiques and develops the analysis presented across this literature.

This paper continues as follows. The next section offers a definition of an STP as a starting point for the discussion. Following that, the next section provides an overview of the innovation catalytic agent dimension of STPs. This is followed by an exploration of critical success factors (CSF) for STPs. Next is the presentations of the findings of the research which is based on an analysis of 40 STPs spanning a

broad geographical area with 23 of the STPs based in Europe, 8 in North America, 7 in Asia and 2 in South America. This evidenced based research is also supported by the analysis of the responses to a survey sent to 54 key informants, a combination of enterprise founders, managers, practitioners, consultants and researchers knowledgeable about the roles, processes and functioning of STPs. The paper draws on an examination of literature related to the processes and practices of STPs. The analysis of this material then leads into the fourth section of the paper which examines aspects of the perceived needs that lead to the creation and location of STPs. The penultimate section of the paper presents the contribution of this paper to previous research and practice. In conclusion, a summary of the research and paper content is presented.

Defining STPs

Since the inception of Stanford Industrial Park, the structure and definition of 'industrial park' has had many guises such as research park, innovation park, techno-city, technopole, technopolis, innovation centres, innovation districts and science parks. A more prolific term used in the last two to three decades is Science and Technology Park (STP). Regardless of title and definition, it is clear that governments perceive focusing on and nurturing the development of STPs as being crucial to the socioeconomic development of the economies within which they operate. According to Minguillo, Tiwsen and Thallwall (2014), innovation through scientific and technological advances has become the basis of socioeconomic development of many countries, because it is a key ingredient to competitiveness and economic growth. Therefore, governments need to develop national and regional policies, strategies and infrastructure for innovation. Essential to promoting innovation are the interactions between the producers and consumers of knowledge, that is, the interactions between universities and other knowledge-generating entities as well as industry and society. In the knowledge economy, knowledge is equally located in industry and academic spheres. Therefore facilitating a collaborative interaction between knowledge creators in academia and industry is critical to the flow, churn and exchange of knowledge between these entities, and ultimately to social and economic prosperity especially within regions.

In addition, the role of knowledge and its application by industry in the knowledge economy has expanded to incorporate its impact on the wider society expanding the concept of the innovation clusters from the triple helix to a quadruple and quintuple helix. The extension of the collaborative environment to incorporate citizens as producers and consumers in the development of sustainable solutions, and the associated complexity of the resulting innovation cluster, reinforces the value of innovation platforms such as STPs as drivers for new innovation solutions. Therefore, as stated by Arena, Azzone and Piantoni (2022), it is very important that STPs recognise the role of environmental and social inclusion as key outputs of the innovation environment. Supporting this concept, researchers

such as Da Costa Mineiro, de Souza and de Castro (2021) also emphasised the role of the STP in delivering sustainable innovation in a quintuple helix innovation environment. The challenge, therefore, for innovation catalytic agents such as STPs is to identify new frameworks for developing and implementing favourable innovation conditions to enhance company performances leading to new innovation outputs in line with societal and environmental needs (Roldan, Hansen and Garcia-Perez de Lema, 2018).

In 2019, UN ESCAP, predicted that because of the then focus on the level of economic development in regions, governments may perceive STPs as a means of upgrading production, promoting collaboration in research and innovation, and making advances in global value chains. The report strongly suggests that an STP is a means to an end, and not an end in itself. This is where many governments have made and are still making mistakes. They assume that by building an STP economic development will automatically follow, as opposed to having a comprehensive plan and supporting structures in place clearly determining how the STP will generate sustainable economic growth. The STP should be seen, by all stakeholders involved as a critical part and facilitator of a region's innovation ecosystem and not as constituting the entirety of the innovation ecosystem infrastructure. Unfortunately, in many cases the STP is an edifice not wholly connected to its region's entrepreneurial and innovation ecosystem.

Moreover, an STP is not a collection of buildings or simply a location for activity. An STP should be seen as "an organisation managed by specialised professionals, whose main aim is to increase the wealth of its community by promoting the culture of innovation and the competitiveness of its associated businesses and knowledge-based institutions" (IASP, 2018). To achieve this the STP management teams, as innovation catalytic agents, need to be committed innovators (and not just landlords or managers), stimulate and manage the flow of knowledge and technology amongst universities, R&D institutions, companies and markets; and facilitate the creation and growth of innovation-based companies through incubation and spin-off processes, value-added services and high quality space and facilities.

THE INNOVATION CATALYTIC AGENT DIMENSION OF STPS

According to Minguillo, Tiwsen, Thallwall (2014), scientific and technological advances have become the mainstay of a country's socioeconomic development. As science and technology become more vital to competitiveness and economic growth, the development of regional policies and strategies for innovation is needed. Therefore, the interactions between producers and consumers of knowledge is a central issue in promoting the application of scientific research and closer integrative, interactive, collaborative and cooperative ties between university and industry. However, these interactions need a catalytic agent, such as an STP, to initiate and stimulate the process of engagement (see O'Gorman and

Donnelly, 2016). This is very much in line with Entringer and Lacopo da Silva's (2020) assertion that STPs having interactive collaborative and cooperative engagements with universities, faculties research and innovation centres (RICs) facilitates the commercialisation of research, the exchange of knowledge and the transfer of technologies; thereby stimulating socioeconomic and regional development. On the other hand, universities also see STPs as mechanisms to facilitate the commercialisation of their academic research and to generate income from their R&D as well as an expression, in many cases, of the increasingly important industry-facing orientation of public higher education bodies (see for example, Link and Scott, 2007; and Caldera and Debande, 2010).

STPs have a role to play not only in providing support to nascent entrepreneurs, emerging enterprises, start-ups and growing SMEs, but also as conduits of technology and knowledge exchange between producers and consumers of these technologies and knowledge. Therefore, STPs have an essential and critical role to perform in the regional innovation ecosystem within which they are based – this is the role of *catalyst or facilitator*. Rowe (2011), based on his work with Warwick University and Warwick University Science Park, observed that the sustainability of STPs is complex and they need to establish ways of operating effectively within, and to find a balance between, the quadruple helix dimensions of government, university, industry, and society. Therefore, in order to further propagate the socioeconomic development of the locale and/or region in which they are based, STPs need to facilitate the interactions between stakeholders (for example, government agencies, industry, entrepreneurs, HEIs, research centres, venture capitalists and investors) so as to create a synergy that builds on the foundation for sustained transformational change in entrepreneurship and innovation. When planning this kind of holistic approach to a region's sustained socioeconomic development, an often under-utilised resource is the depth of experience, expertise and global reach of the FDIIs based in that region. Connecting FDIIs to local enterprises, universities, faculties and research centres to facilitate the exchange of knowledge, know-how, expertise, and experience is another critical facet as to how STPs can enhance socioeconomic development of the regions in which they are based.

By promoting the creation of companies which generate jobs, STPs also contribute to the social and cultural fabric of the regions in which they are based because these new jobs often attract new people, talents and cultures which enhance the existing social and cultural attributes of the locale and/or region within which the STP is based. Therefore, STPs are facilitators, conduits and catalytic agents of both socioeconomic and sociocultural development as well as the innovation process in their respective localities. They root new innovation-led businesses, inward investors and new jobs into the local economy by “improving the culture of entrepreneurship in knowledge-based sectors and stimulating greater numbers of higher added-value employment opportunities in the locality” (European Union, 2014, p.7).

It should be emphasised, however, that, again, STPs alone cannot facilitate development. It is an important fact that the lack of social infrastructure such as appropriate housing and educational infrastructure can inhibit the attractiveness of a region to key employees, regardless of the innovation ecosystem and the excellence of its parts. When it comes to determining the role of the STP in a regional economy, therefore, its role within a wider range of policy and development structures and processes also needs to be considered. However, this concept and scenario are beyond the scope of this present study and paper.

We suggest therefore, that STPs are catalysts, conduits and facilitators of the Areas of Innovation in which they are based. In this instance, however, it is extremely important to note that the Area of Innovation is not limited to the Park's buildings and the immediate area around these buildings. Rather, the Area of Innovation is the region (be it geographical, statistical or jurisdictional) in which the Park is based. The role of the STP therefore is to be catalyst, conduit and facilitator of stakeholder engagement that supports technology and knowledge exchange, between producers, receivers and users, so as to propagate the nurturing, developing and embedding of sustained transformational change in entrepreneurship and innovation in the regions in which they are based.

CRITICAL SUCCESS FACTORS FOR STPS

This section of the paper presents findings from the analysis of 40 STPs. The span of the STPs reviewed covered a broad geographical area with 23 of the STPs based in Europe, 8 in North America, 7 in Asia, and 2 in South America. The method used was desk research employing a random selection technique based on filtering criteria such as 'leading edge science and technology parks' and 'leading edge innovation centres and innovation districts'. Also, other searches were made by replacing the words 'leading edge' with 'world class' and 'good practice'. This evidenced-based research is also supported by the analysis of the responses to a survey sent to 54 key informants, a combination of enterprise founders, managers, practitioners, consultants and researchers knowledgeable about the roles, processes and functioning of STPs. The findings presented here take into consideration, in broad terms, the geographic settings; proximity to Higher Education Institutions (HEIs), Research Centres (RCs) and investor organisations; and the size of population of the community the STP serves.

The reason why it is so important to learn from and apply good practices is because, in general, policy makers in developed, advanced and emerging economies believe that there is a positive and direct link between the services provided by STPs and firms' emergence, growth and development. However, for over twenty years now, there has been a continuous debate among researchers, practitioners and policy makers as to the veracity of the cause-and-effect relationship between the existence of STPs, the services they provide to tenant firms and the growth and development of these firms. To test this scenario, in

2018, Arauzo-Carod, Segarra-Blasco, and Teruel conducted a comprehensive study investigating the relationship between a firm's performance and its location, be it inside or outside an STP. To do their study they used a data base of 170 firms located inside 12 Catalan Science and Technology Parks ('in-park firms') and a data base of 7,190 firms located outside these STPs ('out-park firms'). However, all firms were based in the Catalonia region and were high-tech firms with 'similar characteristics'. The period of analysis for this research was data from the 2006 – 2013.

It was noted that, certainly when these firms were based in an STP, there were interactions with other similar firms in the Park as well as with research centres and public agencies. These interactions generated knowledge spillovers that increased the competitiveness of firms and fostered their growth (Arauzo-Carod, Segarra-Blasco, and Teruel, 2018). This agglomeration and knowledge spillover is typical of good practice STPs, Innovation Districts and Regional Innovation Systems (see for example, Botelho and O'Gorman, 2015).

According to Arauzo-Carod, *et al.* (2018) and Botelho and O'Gorman (2015), the geographical concentration of firms results in positive knowledge spillover, and therefore firm growth. This spillover happens in many different ways. Some of the spillover avenues include, but are not limited to, the following: knowledge, skill and technology spillovers happen as a result of a combination of (i) direct communication and socialisation between employees from different firms; (ii) employees moving from one firm to another; (iii) information days, conferences and/or workshops held by the management of the STP; (iv) contracts of engagement between firms; and (v) general interaction in 'common' areas such as restaurants, meeting spaces, and other informal settings. These spillovers can also be as a result of engagement between existing tenants and the alumni of STPs. This is a reason why it is very important that STPs create and nurture vibrant alumni communities by keeping in regular contact with and offering continued support to 'graduated firms' from their Park. This is a key dimension of the role of STPs as innovation catalytic agents.

The findings from Arauzo-Carod's, *et al.* (2018) research indicate that STPs accentuate the process of firm selection, facilitate the growth and survival of dynamic firms, and penalise others (relative to the positive/negative effects on firm growth). Hence, the role of the STP is not so much as a key driver of regional development, but as a filter (catalyst) of the key factors responsible for capturing the added knowledge value within a region (p.654).

FINDINGS - PARAMETERS FOR SUCCESSFUL STPS

Successful STPs that are considered to be valued innovation catalytic agents in their communities are ones that are properly resourced with high-speed internet networks, excellent communications infrastructure, and have well trained staff capable of supporting entrepreneurs and enterprises to be

able to assess new incoming ideas and projects and to “spot” new and emerging opportunities. The STP staff also needs to be motivated and willing to connect to and work with people with different mindsets to nurture the sustainable development of a vibrant entrepreneurial ecosystem. Also considered to be extremely important is the provision of open areas for collaboration and interactions and experimentation spaces; that it is necessary that the STP creates an environment suitable to enhance the connections and interactions for “insiders” and “outsiders” and for smaller groups of tenants as well among each other.

The detail supporting these findings is as follows. This section of the paper is based on the analysis of the responses to the surveys administered for this research study. The first part of the survey (see Table 1) looks at the infrastructural aspects of STPs. According to respondents, it is extremely important that STPs have a high-speed internet network (94%) and excellent communications infrastructure (67%). Also considered to be extremely important by 72% of the respondents is that the STPs have well trained staff capable of supporting entrepreneurs and enterprises to be able to assess new incoming ideas and projects and to “spot” new and emerging opportunities. The STP staff also needs to be motivated and willing to connect to and work with people with different mindsets to nurture the sustainable development of a vibrant entrepreneurial ecosystem.

Infrastructural aspects of STPs	Extremely Important	Important	Neutral	Not Important	Absolutely No Impact
Proximity to Higher Education Institutes	44%	56%			
Proximity to Research Centre (RCs)	33%	67%			
Well trained staff capable of supporting entrepreneurs and enterprises	72%	28%			
Located in a town of > 20,000 people	11%	11%	56%	11%	11%
Located in a town of > 50,000 people		22%	61%	6%	11%
Located in a town of > 100,000 people		44%	39%	11%	6%
Located in a town of > 500,000 people	11%	27%	56%	6%	
Located in a town of > 1 million people	22%	27%	45%	6%	
Excellent road, rail transport infrastructure	17%	72%	11%		
Proximity to airport	6%	50%	27%	11%	6%
Proximity to sea port		11%	50%	11%	27%
Availability of engineers and/or researchers	67%	33%			
Availability of scientists	50%	44%	6%		
Availability and accessibility to investors	67%	27%	6%		
Availability of state/regional funding	39%	61%			
High-speed internet network	94%	6%			
Excellent communications infrastructure	67%	22%	11%		
Clearly identified Smart Specialisations	22%	39%	33%	6%	
Large industry base	22%	45%	22%	11%	
Hight-tech industry	22%	72%	6%		
Mix of traditional and “new age” industries	11%	61%	28%		

Strong collaboration between HEIs, RCs and Industry.	56%	33%	11%		
Well educated population (high % of HEI graduates and professionals)	33%	45%	16%	6%	
Close proximity to other STPs or Innovation Centres		50%	39%	11%	
Member of regional or national innovation cluster	6%	67%	27%		
Strong evidence of TT in the region	22%	67%	11%		
Be clearly connected to a TTO		88%	6%	6%	
Availability of hotels and conferencing facilities	16%	22%	50%	6%	6%

Table 1 Infrastructural aspects of STPs

An interesting observation, which is contrary to perceived wisdom, is that the size of urban area or proximity to airports or sea ports are not considered to be extremely important. However, 72% of respondents consider excellent roads and rail transport to be important. This is supported by one of the respondents who wrote that, 'excellent communications infrastructure and transport network' is one of the five most important attributes of successful STPs. Whereas 72% of the respondents consider having high-tech industry and 61% consider a mix of traditional and "new age" industries in the region where the STP is based to be "important", just over 20% and 10% of the respondents consider these aspects, respectively, to be "extremely important". As regards proximity to Research Centres (RCs) and Higher Education Institutions (HEIs), only 67% and 56% of respondents, respectively, consider these aspects to be "important"; on the other hand, less than 50% of the respondents consider these proximities to be "extremely important". However, 88% of respondents selected in the survey that STPs need to be clearly connected to a Technology Transfer Office (TTO). Invariable TTOs are embedded in universities. The purpose of the TTO is to transfer technology from university research centres to industry. TTOs are also known as patent and licensing officers. They are responsible for the commercialisation of university research and inventions. The staff in the TTO work with faculty and staff to identify technologies that have the potential for financial returns. Where relevant, TTOs create partnerships (with industry or investors such as venture capitalists (VCs) in order to license or sell these discoveries into the marketplace. Another important function of TTOs is protecting intellectual property rights by filing patents on new technology which makes it possible for universities to share their research with other institutions and industry. TTOs are based within university structures, therefore STPs have a critical role to play as conduits to facilitate TTOs with the process of commercialisation of research and the transfer of technology through, for example, supporting the creation of new enterprises and/or the expansion of existing enterprises into new processes, products and markets.

Contrary to public policy and a myriad of peer-reviewed research papers on the topic, only 39% of respondents believe that it is important to have clearly identified Smart Specialisations in the region, as

opposed to just over 20% stating this to be extremely important. On the other hand, 56% of respondents stated that strong collaboration between HEIs, RCs and Industry is extremely important. Also considered to be extremely important are the availability of engineers and/or researchers (67%), availability and accessibility to investors (67%) and availability of scientists (50%). As regards the availability of state funding, this is seen as being important by 61% of respondents and extremely important by only 39%.

The second dimension of the survey asked questions about the importance of services that STPs need to provide to their tenants (See Table 2). The service that is extremely important to most respondents is mentoring (72%) followed by links to investors at 67% and that the STPs provide innovation activities and act as an innovation hub (67%). These are all embedded activities STPs perform within their role as innovation catalytic agents supporting the growth and development of nascent, emerging and existing enterprises.

Also considered to be extremely important is the provision of open areas for collaboration and interactions (61%) and experimentation spaces (56%); as some of the respondents wrote about the importance of such services [it is important to have] ‘an environment suitable to enhance the connections and interactions for “insiders” and “outsiders” and for smaller groups of tenants as well among each other, all of which is part of the process of STPs being innovation catalytic agents.

STP, Innovation centres need to provide:	Extremely Important	Important	Neutral	Not Important	Absolutely No Impact
Mentoring	72%	22%	6%		
Training and development	50%	39%	11%		
Links to investors	67%	33%			
Links to enterprise support agencies	44%	56%			
Open area for collaboration/interactions	61%	33%	6%		
Restaurant facilities	11%	55%	28%	6%	
Secure facilities for confidentiality/safety	33%	67%			
Space to meet customers	33%	67%			
Experimentation spaces	56%	39%	6%		
Competitive rental arrangements	22%	56%	16%	6%	
High degree of tenant churn	33%	27%	16%	6%	16%
Innovation activity and innovation hub	67%	27%	6%		
Engagement with tenants/tenant reviews	39%	33%	17%	11%	
Researchers, Academics and Enterprises in same facility	33%	56%	11%		

Table 2 Services provided by STPs

A very interesting, and maybe peculiar, observation is that engagement with tenants/tenant reviews are considered to be extremely important by only 39% of respondents while only 33% consider this to be important. Another interesting observation is that the co-existence of “researchers, academics and

enterprises in same facility” is considered to be extremely important by only 33% of the respondents. This may be due to the structure of the STPs in which the respondents are based and/or have knowledge about. For example, only 15% of the respondents work in an environment where there is a co-existence of researchers, academics and enterprises in same facility. Even after 50 years of the existence of STPs, this co-existence strategy is still a unique dimension. However, those that work in such co-existing collaborative open innovation environments attest to the success of the dynamics created and the degrees of heightened innovation in these STPs. According to UN ESCAP (2019), “collocation of research firms or institutes (in and of itself) does not guarantee research collaboration, but it does not do any harm either. The bottom line is that such collocation provides an opportunity to collaborate, although collaboration may or may not take place” (p.19).

PERCEIVED NEEDS THAT LEAD TO THE CREATION AND LOCATION OF STPS

It is very important that before an STP is established, policymakers have to have clear goals of what is to be achieved through the establishment of an STP. Such policy goals include, but are not limited to, advancing innovation in the region, increasing the region’s industry stock, modernising production processes, promoting collaboration in research and innovation, increasing the region’s entrepreneurial culture, creating new enterprises and sustainable jobs in the region, and making advances in global value chains. In other words, policy should articulate the ambition that the STP has the capability and capacity to be an innovation catalytic agent for progressing its catchment area’s innovation ecosystem and inclusive, balanced socioeconomic development. Equally, it is very important that governments create positive social interventions and innovative forms of policies that effectively bring benefits to entrepreneurs and the region (Dhewanto, Lantu, and Herliana, 2016).

The UN ESCAP (2019) suggests that “[therefore] the ‘need’ for a new STP can be defined most readily as the perceived capability for an investment in an STP to close the gap in the performance of a local [entrepreneurial and] innovation ecosystem between where it stands today and what it might become through the development of a successful STP” (p.48) and stresses that “STPs sponsored by public sector bodies should be established and managed to deliver aspects of a regional or national innovation ecosystem that are clearly insufficient in quantity or inadequate by their nature for the healthy functioning of industrial innovation in the knowledge based sectors of a local economy” (pp. 50 and 51). Also, according to the EU (2014), the usual method for assessing the prospective ‘potential’ of a new STP is to quantify the employment, new business starts and inward investment that the project can be expected to develop. The quantification has to take into account the established success factors for STPs, moderating outputs where those factors are not fully present. However, the assessment of

'potential' has to take into account that an STP performs best when the local economy is diversified, has a solid research capacity and a recognisable industrial base. This ensures that the STP is positioned to be able to both take inputs from the local economy as well as making its contributions to the knowledge-based economy as it delivers its mission.

The 'need' and 'potential' for an STP are often defined in terms of the employment socioeconomic outputs they can generate. However, it is rare for the 'need' to be explicitly linked to the improvements an STP could bring to an innovation ecosystem and hence at the planning stage of a new STP, often too great an emphasis is given to the STP's land and property. A more appropriate approach would be to stress the identification of the combinations of property, services and the capability of the STP to generate collaborative, cooperative and iterative stakeholder engagements and arrangements that are most likely to supply the 'need' for a more efficient and effective innovation ecosystem. In this context the property is a means to an end and not an end in itself. The 'potential' then becomes an assessment of the additional employment and other socioeconomic outputs that the new facilities, services and working patterns can be expected to deliver." (pp. 2-4).

IMPACT – CONTRIBUTION TO RESEARCH AND PRACTICE

This paper, by uniquely reviewing publications and collating data on the critical success factors for STPs and Innovation hubs, a process not found in other publications, contributes to previous research in that it validates existing work that supports the concept of the importance of STPs as innovation catalytic agents in the communities and regions in which they are based. Previous research papers that were reviewed for this study that had any relevance to the topic under review and analysis were primarily based on literature reviews. None of these papers was based on empirical analysis, therefore the empirical analysis for this paper further contributes to the expanding reservoir of research in this domain.

The paper also contributes to practice by identifying the critical success factors of successful STPs and articulating the perceived needs that lead to the creation and location of STPs. The data presented in this paper can be codified into templates that will be of benefit to policy makers when detailing criteria for the creation and evaluation of STPs as well as defining soft and hard supports to nurture the creation and expansion of STPs. The paper also contributes to practitioner and researcher knowledge about the requirements for infrastructure and staff development that are necessary to ensure the role of an STP as an innovation catalytic agent in balanced regional socioeconomic development.

CONCLUSION AND SUMMARY REMARKS

This paper concludes, that STPs are catalysts, conduits and facilitators of the Areas of Innovation in which they are based. However, it is extremely important to note that the Area of Innovation is not limited to the STP's buildings and the immediate area around these buildings. Rather, the Area of Innovation is the region and community in which the STP is based. The role of STPs therefore is to be innovation catalytic agents that act as conduits to facilitate stakeholder engagements that supports technology and knowledge transfer and exchange, between producers, receivers and users, so as to propagate the nurturing, developing and embedding of sustained transformational change in entrepreneurship and innovation in the regions in which they are based. STPs, therefore are an essential ingredient in the process of building balanced socioeconomic development in the regions in which they are based. In the words of the UN ESCAP (2019), the importance of investing in an STP is “.....to close the gap in the performance of a local [entrepreneurial and] innovation ecosystem between where it stands today and what it might become through the development of a successful STP” (p.48).

As emphasised by da Costa Mineiro, de Souza and de Castro (2021) and supported by Arena, Azzone and Piantoni (2022) the role of STPs is to deliver sustainable innovation, through environmental and social inclusion practices in a quintuple helix innovation environment. The challenge, therefore, for STPs as innovation catalytic agents is to identify new frameworks for developing and implementing favourable innovation conditions to enhance company performances leading to new innovation outputs in line with societal and environmental needs (Roldan, Hansen and Garcia-Perez de Lema, 2018).

To conclude the argument that STPs, as innovation catalytic agents, are a missing link in balanced socioeconomic development in regions, it is imperative to consider the EU's (2014) “twenty-firstst century model of STPs” that stipulates that STPs (i) are seen as an integral part of the local innovation ecosystem that understand and work with it and also design and deliver programmes that reduce weaknesses in the innovation ecosystem; (ii) create collaboration spaces to bring innovation actors together and act as host to the programmes of other actors as a means for increasing the visibility of the entire innovation ecosystem; (iii) balance the need for short-term financial returns to secure sustainability against the opportunity to accelerate innovation-led business and economic growth; and (iv) engage with the private sector to secure capital for development as the park proves they can attract inward investment (both national and international) and / or the park stimulates new innovation-led business activity in other ways, often involving partners in the process (p.2).

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INTERACTION OF ORGANIZATIONAL CULTURE, MANAGERS' LEADERSHIP STYLE, EMPLOYEE JOB SATISFACTION AND COMMITMENT IN COVID-19 CONDITIONS

Pauliene, Rasa; Diskiene, Danuta; Tamasevicius, Virginijus; Blankute, Dovile

Faculty of Economics and Business Administration, Vilnius University, VU, Vilnius, Lithuania

ABSTRACT

The article aims empirically investigate impact of organizational culture and the company managers' leadership styles on employees' job satisfaction and their commitment to the organization working remotely in Covid-19 conditions. The study starts with a scientific literature review on the research aim to understand the actuality of the aforementioned phenomena as numerous scholars and researchers state that it is vital to examine challenges, trends and meaningful outcomes of the massive remote working caused by COVID-19 pandemic. The quantitative research method has been applied with the empirical research instrument - a survey questionnaire, prepared by adapting previous researchers' scales. Depending on the number of respondents - similar researches samples and using random sampling method, data of 183 anonymously filled in questionnaires have been analysed. Software IBM SPSS applied for the data statistical analysis and six hypotheses' testing. The results of the study reveal that the more employees' work remotely the more is important the organizational culture of the company that directly influences the employees' job satisfaction and their commitment. Moreover, regardless of which leadership style environment - transformational or transactional - the employee works in, both of these styles have a statistically significant impact on the employee job satisfaction and commitment to the organization. The findings can help managers to consider that the company organizational culture and the managers' leadership style remain significant working remotely as it can reduce employee turnover, retain talents as well as ensure the consequent implementation of long-term human resource management programs in the organization.

Keywords: organizational culture, transactional leadership style, transformational leadership style, employee job satisfaction, employee commitment, remote work, Covid-19 conditions

INTRODUCTION

The purpose of this study is empirically investigate impact of organizational culture and the company managers' leadership styles on employees' job satisfaction and their commitment to the organization

working remotely in Covid-19 conditions. The unprecedented force majeure caused by Covid-19 pandemic has shaken the basis upon which working environment have been negotiated and accepted by both the employees and employers. The large-scale experiment both urgently and unexpectedly forced millions of people to provide services, produce content, organize meetings, and teach courses and more from home (Magnier-Watanabe et al. 2022). Recent individual empirical studies and meta-analyses have suggested abundance of approaches onto relationship between the strategic management of human resources and a variety of important organizational outcomes, such as individual- and company-level performance (Roumpi 2021). Despite the compelling evidence concerning the impact of human resources management systems and managers' leadership style practices on individual- and organizational-level outcomes, as the unprecedented Covid-19 pandemic emerged, organizations all over the world had to reconsider and urgently adjust the way they manage and lead their human resources (e.g. Collings et al. 2021; Rodrigues et al. 2022; Rozman & Cancer 2022; Roumpi 2021). Therefore the researchers insist that the outbreak of the Covid-19 pandemic lacks of steered the discussion away from the traditional performance-related outcomes of the strategic human resource management as well as managers' leadership styles and emphasized the importance of resilience. However, it remains unclear which outcomes remain resilient to the sudden change in working conditions during the Covid-19 period.

In recent decades organizations are increasingly competing with each other regardless of the nature, size or geography of their operations therefore organizational culture and leadership styles of managers become vital weapons in the competitive struggle to increase employee job satisfaction and commitment to the company. Under special conditions the aforementioned factors change, therefore investigation of the impact of the pandemic that shook the World is extremely relevant and timely. Interaction and interdependence between the organizational culture, managers' leadership styles and employee job satisfaction as well as their commitment has been a significant topic to both scholars and practitioners for the past decades. However, there is no much literature and research comprehensively and systematically based on theoretical knowledge or studies about employees' concerns related to the remote working during the Covid-19 pandemic. As a consequence it is hard to judge whether the essentially changed working conditions over the past few years have had irreversibly destructive impact on the fundamental weapons of the organization's competitive advantage, such as organizational culture and leadership styles of managers, on which long-term employee job satisfaction and commitment to the organization largely depend. The quantitative research method has been applied with the empirical research instrument - a survey questionnaire, prepared by adapting Meyer et al. (1993), Wiss et al. (1963), Cameron and Quinn (1999), Bass & Avolio (1995) scales. Depending on the number of respondents - similar researches samples and using a random sampling

method, data of 183 anonymously filled in questionnaires have been analysed. Software IBM SPSS was applied for the data statistical analysis and six hypotheses' testing. The findings of the study may help managers to understand that their leadership styles and organizational culture remain significant when working under the conditions of Covid-19; however, the change of such significance can be questioned simply because the resilience of the aforementioned phenomena is not completely clear and correctly perceived by managers. The study seeks to draw attention of practical businesses as well as formulate some insights that could be useful for organizations to keep their human resource management and leadership styles' practices more resilient.

THEORETICAL BACKGROUND

Job involvement refers to employees' perception of the overall job situation as being an important element of their life and identity that results in a broad spectrum of positive outcomes, including an elevated level of commitment, satisfaction and citizenship behavior and thus had long been a research focus (Ullah et al. 2022; Qureshi et al., 2019). However, the COVID-19 pandemic has rapidly altered the working landscape almost all over the World with most organizations except essential service providers shifting to remote working. The drastic transition to remote working compels researchers to revisit forces that may contribute to employees' job involvement (Adisa et al. 2021; Collings et al. 2021; Ullah et al. 2022). Numerous recent researches reveal that the sudden transition from in-person to online modes of working during the Covid-19 pandemic brought about work intensification, online presenteeism, employment insecurity and poor adaptation to new ways of remote working (Adisa et al. 2021; Collings et al. 2021; Roumpi 2021).

In contrary, numerous researches reveal that remote working has benefits for most employees as it offers the flexibility to work from anywhere, at any time. Employees are enabled to optimize right balance between their work and family-related duties, they also are able to make savings on travel costs as well as spend less time commuting (Felstead & Henseke, 2017). Notwithstanding, there are several limitations of remote working, including lack of or ultimately poor communication among teams, more frustrating distractions, reduced work motivation and job satisfaction, lack of in person collaboration, possible data security problems and the difficulty of monitoring performance, etc. (Adekoya et al. 2022; Adisa et al. 2021; Golden & Gajendran, 2019). These issues represent real problems for many employees and ultimately their employers. Barabaschi et al. (2022) state that consequently, the first challenge for companies was to become aware of what happened during the emergency, turning critical times into opportunities. The pandemic has prompted businesses to anticipate decisions they otherwise would have made in three to five years Ullah et. al (2022).

Referring to a generalized definition organizational culture is a set of unwritten organizational rules both consciously and unconsciously transmitted from one employee to another while working together in a real environment in an organization. During the Covid-19 pandemic, this transfer has moved into virtual space, making organizational culture less tangible (Adisa et al. 2021; Adekoya et al. 2022). This is just one of the many reasons why creating and regulating organizational culture has become a challenge for managers. In turn, managers' leadership styles are an essential tool for achieving organizational goals therefore it is not surprising that in times of uncertainty the influence of managers' leadership styles become even more important in order to ensure the smooth operation of the organization (Rodrigues et al. 2022; Rozman & Cancer 2022). Employee job satisfaction is an important measure in today's competitive market, the improvement of which is directly proportional to the improvement of the company's performance. Therefore organizations that understand the importance of this measure consistently strive for employee well-being (Adekoya et al. 2022). Organizational commitment is another measure that helps an organization to go purposefully towards its intended goal as employees, who feel high organizational commitment, are less likely to leave the organization thus not causing additional employee turnover costs and other consequences affecting the organization's behavior and image. Therefore the scholars (e.g. Adisa et al. 2021; Collings et al. 2021; Ullah et al. 2022) and practical businesses call a danger that such stress factors are capable of depleting vital social and personal resources, thereby impacting negatively on employee engagement, employee commitment and their job satisfaction as a whole.

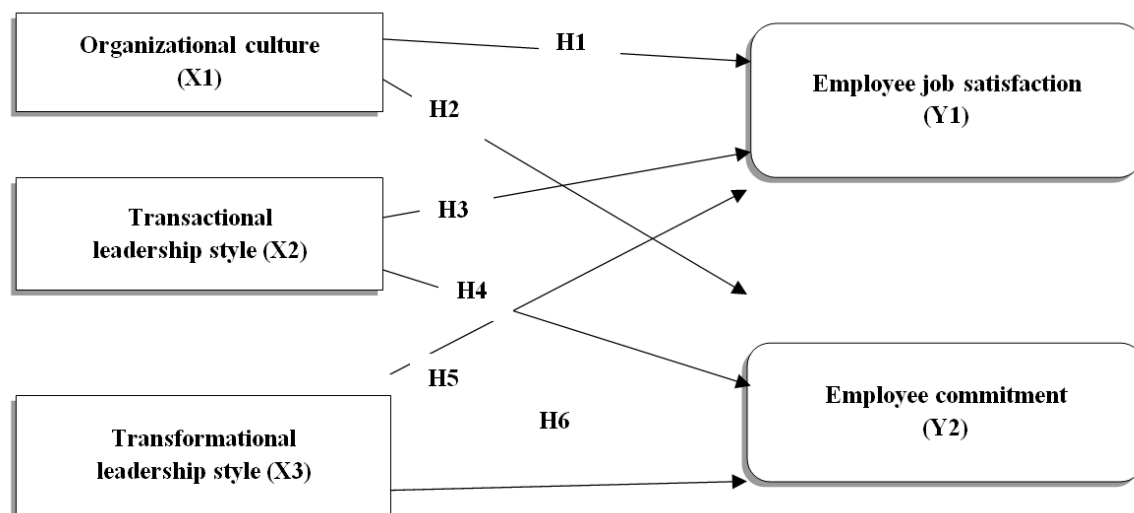


Figure 1. Impact of organizational culture, transactional leadership style and transformational leadership style of managers on employee satisfaction and organizational commitment

METHODOLOGY AND RESEARCH DESIGN

Based on the relevance of the interaction of the phenomena formed by previous researchers a theoretical research model was formed, which aims to substantiate the impact of organizational culture and leadership styles of managers on employees' satisfaction and organizational commitment under the conditions of Covid-19 (Figure 1).

The purpose of the study is to empirically investigate the impact of the company organizational culture, the managers' leadership styles (transformational and transactional) on the employees' organizational commitment and the employees' satisfaction under Covid-19 conditions. Assuming that there is a relationship between organizational culture, leadership style and organizational commitment as well as employee satisfaction under Covid-19 conditions the following hypotheses were formulated:

H1 Organizational culture has a positive impact on employee satisfaction in Covid-19 conditions;

H2 Organizational culture has a positive impact on employee commitment in Covid-19 conditions;

H3 Transactional leadership style has a positive impact on employee satisfaction in Covid-19 conditions;

H4 Transactional leadership style has a positive impact on employee commitment in Covid-19 conditions;

H5 Transformational leadership style has a positive impact on employee satisfaction in Covid-19 conditions;

H6 Transformational leadership style has a positive impact on employee commitment in Covid-19 conditions.

A quantitative method was chosen for the research as well as online survey was used for the data collection. Such a way of data collection often used in social research due to its low costs and convenience of the respondents as it is performed in a convenient place at a convenient time. In an online survey respondents are given privacy when answering questions, they are not influenced by direct contact with the person conducting the survey. Considering five research constructs - organizational culture, organizational commitment, job satisfaction, transformational leadership style and transactional leadership style – the survey questionnaire scales were prepared. Based on other authors who have conducted similar studies with selected samples, the sample size required for this study was determined to be 183 respondents.

The questionnaire includes sociodemographic questions as well as the five construct scales: three independent variables (organizational culture, transformational leadership style, transactional leadership style) and two dependent variables (employee job satisfaction, employee commitment):

- To measure organizational commitment 24 items were included from Meyer et al. (1993) three-

dimensional measurement model of an employee's commitment to the organization;

- To measure employee satisfaction – 20 items from a short version of the Minnesota Satisfaction Questionnaire (MSQ) (Wiss et al. (1963);
- To measure organizational culture – 24 items suggested by Cameron & Quinn (1999) (Organizational Culture Assessment Instrument (OCAI);
- To measure transactional leadership and transformational leadership – 21 items compiled by Bass and Avolio (1995) (The Multifactor Leadership Questionnaire (MLQ), short version 5X form).

Cronbach's alpha values from original sources were used to assess the validity of the questionnaire scales as well as the Cronbach's alpha values of this study calculated after interviewing 10 respondents (Table 1.) that are > 0.8 therefore it can be stated that the scales are suitable for the survey and the data analysis.

Scales	Cronbach's alpha in previous researches	Cronbach's alpha of the study (n = 182)
Organizational commitment	0,73	0,79
Job satisfaction	0,90	0,91
Organizational culture	0,81	0,90
Transactional leadership	0,89	0,82
Transformational leadership	0,91	0,94

Table 1. Validity of the questionnaire

Five-point Likert scale was used in the questionnaire, where 5 - strictly positive attitude of the respondent (completely agree), 4 - positive attitude (agree), 3 - neutral attitude (neither agree nor disagree), 2 - more negative attitude (disagree) and 1 - strictly negative attitude (completely disagree). The questionnaire was created on the platform www.apklausa.lt in Lithuania as well as the links of the questionnaire were distributed in random way to working persons' emails and social networks FB and Instagram with the aim of collecting data from people who worked at organizations during the Covid-19 pandemic. As soon as the amount of data reached the required sample size (183 respondents) the stage of data processing and analysis was began. Collected data was processed and the data statistical analysis was performed in software IBM SPSS. Statistical data analysis methods used in the study: Cronbach's alpha - to measure the validity and reliability of scales; the Kolmogorov Smirnov test - to measure the normality of the data distribution (it was found that the scales do not meet the criterion of normality, as $p < 0.05$, therefore, in further calculations, a non-parametric criterion - Spearman's correlation coefficient - was applied). Linear regression analysis was used to test hypotheses, i.e. to examine the influence of independent variables on dependent variables.

MAIN FINDINGS

In total 183 respondents participated in the survey: 53% men and 47% women. The majority of respondents (66%) belong to the age category of 26-35 years; 18-35 y.o. - 13%; 36-45 y.o. - 14%; 46-55 y.o. - 5%; 55 y.o. and more - 2%. When it comes to organizational culture, leadership style of managers, employee satisfaction and organizational commitment it is also important to evaluate how long the employee works in the organization as it lets to reveal of how long the person has been familiar with the mentioned factors. Majority (82%) of the respondents of the study - persons who have been working in the organization for 1-5 years, 7% - for 6-10 years, 5% - for less than 1 year, 4% - for 11-20 years, 2% - for more than 20 years in the same organization. This shows that the majority of respondents spent entire period of the Covid-19 pandemic in the same organization thus have experience in dealing with the above-mentioned factors. The last demographic question of the questionnaire is the respondents' education. This factor is important when it comes to respondents' ability to perceive hard-to-tangible aspects such as organizational culture. Most of the respondents of the study, as much as 84%, stated having university education, 9% - higher non-university education, 4% - high school education, 3% - professional school education.

In order to analyze the impact of organizational culture on employee job satisfaction it is important to appreciate that this phenomenon cannot be unequivocally considered as good or bad. Therefore the organizational culture was evaluated through the culture model suggested by Cameron and Quinn (1999) which divides the organizational culture into 4 types: clan, hierarchy, adhocracy and market.

		Organization al culture - Clan	Organizational culture – Adhocracy	Organizational culture – Hierarchy	Organizational culture – Market
Job satisfaction	Correlation coefficient	0,578	0,477	0,344	0,230
	p	<0,001	<0,001	<0,001	<0,001
	N	183	183	183	183

Table 2. Spearman correlation coefficient

Strongest correlation was revealed in the Clan type as the Spearman coefficient value of 0.578 shows a moderate positive correlation. For the Adhocracy type the value of the Spearman coefficient was 0.447 (for the Hierarchy 0.334) therefore the correlation for the two types is weakly positive. For the Market type Spearman coefficient value is 0.230 therefore the correlation is very weak. The level of significance is $p < 0.001 < 0.05$ therefore it can be stated that the correlation coefficient of the organizational culture types with job satisfaction is statistically significant. In order to determine the impact of organizational culture on employee job satisfaction a linear regression analysis was performed. The types of organizational culture that showed the strongest correlation - Adhocracy (0.477) and Clan (0.578) - were evaluated in the analysis Table 3.

Model	Unstandardized B	p	VIF
Constant	33,469	<0,001	
Organizational culture - Clan	1,405	<0,001	1,504
Organizational culture - Adhocracy	1,080	<0,001	1,504
Dependent variable: Job satisfaction			

Table 3. Organizational culture types – Clan and Adhocracy – impact on employee job satisfaction

As it is seen in the regression model (Table 3) there is no multicollinearity in the model ($VIF < 4$). In addition, the Clan and Adhocracy organizational culture types have a positive impact on job satisfaction - the coefficients are 1.405 and 1.080, respectively. The R-square of the model 0.428 shows that the regression analysis model explains 42.8% of all cases determining job satisfaction. Since positive coefficients are obtained it can be concluded that the impact is positive; therefore the hypothesis **H1** - Organizational culture has a positive impact on employee satisfaction in Covid-19 conditions - is accepted.

Further hypotheses tested in an analogous way. Strongest correlation is revealed for the Clan type (Spearman coefficient 0.537); for the Adhocracy type (0.331) the correlation is very weakly positive; for the Hierarchy type (0.221) and Market (0.223) type the correlation is very weak (Table 4).

		Organizational culture – Clan	Organizational culture – Adhocracy	Organizational culture – Hierarchy	Organizational culture – Market
Employee commitment	Correlation coefficient	0,537	0,331	0,221	0,223
	p	<0,001	<0,001	<0,001	<0,001
	N	183	183	183	183

Table 4. Spearman correlation coefficient

The level of significance is $p < 0.001 < 0.05$; therefore it can be stated that the correlation of organizational culture type and employee commitment is statistically significant. The culture types with the highest correlation - Clan and Adhocracy - were used for the linear regression analysis (Table 5).

Model	Unstandardized B	p	VIF
Constant	39,491	<0,001	
Organizational culture - Clan	1,396	<0,001	1,504
Organizational culture - Adhocracy	0,693	<0,001	1,504
Dependent variable: Employee commitment			

Table 5. Organizational culture types – Clan and Adhocracy – impact on employee commitment

There is no multicollinearity in the model ($VIF < 4$) – Table 5. In addition, the results of the regression model reveal that Clan and Adhocracy types have a positive impact on employee commitment - the coefficients are 1.396 and 0.693, respectively. The R-squared of the model 0.355 shows that the regression analysis model explains 35.5% of all cases determining employee commitment. Since positive coefficients are obtained there can be concluded that the impact is positive; therefore the

hypothesis **H2** - Organizational culture has a positive impact on employee commitment in Covid-19 conditions – is accepted.

In determining the relationship between transactional leadership style and employee satisfaction in Covid-19 conditions, a correlation coefficient was calculated (Table 6). The Spearman coefficient of 0.576 indicates a moderate positive correlation. The level of significance is $p < 0.001 < 0.05$; therefore it can be stated that the transactional leadership style is statistically significantly correlated with job satisfaction.

		Job satisfaction
Transactional leadership	Correlation coefficient	0,576
	p	<0,001
	N	183

Table 6. Spearman correlation coefficient

Further investigating the impact of transactional leadership on employee job satisfaction in the Covid-19 conditions a linear regression analysis was conducted (Table 7).

Model	Unstandardized B	p	VIF
Constant	39,389	<0,001	
Transactional leadership	1,1691	<0,001	1,000
Dependent variable: Job satisfaction			

Table 7. Transactional leadership style impact on job satisfaction

There is no multicollinearity in the model ($VIF < 4$) – Table 7. In addition, the results of the regression model reveal that transactional leadership style has a positive impact on employee job satisfaction - the coefficient is 1,691. The R-squared of the model 0.370 shows that the regression analysis model explains 35.7% of all cases determining job satisfaction. Since positive coefficients are obtained there can be concluded that the impact is positive; therefore the hypothesis **H3** – Transactional leadership style has a positive impact on employee job satisfaction in Covid-19 conditions – is accepted.

In determining the relationship between transactional leadership and employee commitment in Covid-19 conditions a correlation coefficient was calculated (Table 8). The Spearman coefficient of 0.279 indicates a weak positive correlation. The level of significance is $p < 0.001 < 0.05$; therefore it can be stated that the transactional leadership style is statistically significantly correlated with employee commitment.

		Employee commitment
Transactional leadership	Correlation coefficient	0,279
	p	<0,001
	N	183

Table 8. Spearman correlation coefficient

Further investigating the impact of transactional leadership on employee commitment in the Covid-19 conditions a linear regression analysis was conducted (Table 9).

Model	Unstandardized B	p	VIF
Constant	49,957	<0,001	
Transactional leadership	1,058	<0,001	1,000
Dependent variable: Employee commitment			

Table 9. Transactional leadership style impact on employee commitment

There is no multicollinearity in the model ($VIF < 4$) – Table 9. In addition, the results of the regression model reveal that transactional leadership style has a positive impact on employee commitment - the coefficient is 1,058. The R-squared of the model 0.151 shows that the regression analysis model explains 15% of all cases determining employee commitment. Since positive coefficients are obtained there can be concluded that the impact is positive. Although the R square in this case is < 0.200 we cannot completely rule out the relationship between transactional leadership and employee commitment; however, the model is not suitable for further prediction. Hypothesis **H4** - Transactional leadership has a positive impact on employee commitment in Covid-19 conditions - is accepted.

In determining the relationship between transformational leadership and job satisfaction in the context of the Covid-19 pandemic, a correlation coefficient was calculated (Table 10). The Spearman coefficient of 0.625 indicates a weak positive correlation. The level of significance is $p < 0.001 < 0.05$; therefore it can be stated that the transformational leadership style is statistically significantly correlated with job satisfaction in Covid-19 conditions.

		Job satisfaction
Transformational leadership	Correlation coefficient	0,625
	p	<0,001
	N	183

Table 10. Spearman correlation coefficient

Further investigating the impact of transformational leadership on job satisfaction in the Covid-19 conditions a linear regression analysis was conducted (Table 11).

Model	Unstandardized B	p	VIF
Constant	40,563	<0,001	
Transformational leadership	0,766	<0,001	1,000
Dependent variable: Job satisfaction			

Table 11. Transformational leadership style impact on job satisfaction

There is no multicollinearity in the model ($VIF < 4$) – Table 11. In addition, the results of the regression model reveal that transformational leadership style has a positive impact on job satisfaction - the coefficient is 0,766. The R-squared of the model 0.408 shows that the regression analysis model explains 40% of all cases determining job satisfaction. Since positive coefficients are obtained there can be concluded that the impact is positive; therefore the hypothesis **H5** – Transformational leadership style has a positive impact on employee job satisfaction in Covid-19 conditions - is accepted.

In determining the relationship between transformational leadership and employee commitment in the context of the Covid-19 pandemic a correlation coefficient was calculated (Table 12). The Spearman coefficient of 0.279 indicates a weak positive correlation. The level of significance is $p < 0.001 < 0.05$; therefore it can be stated that the transformational leadership style is statistically significantly correlated with employee commitment in Covid-19 conditions.

		Employee commitment
Transformational leadership	Correlation coefficient	0,279
	p	<0,001
	N	183

Table 12. Spearman correlation coefficient

Further investigating the impact of transformational leadership on job satisfaction in the Covid-19 conditions a linear regression analysis was conducted (Table 13).

Model	Unstandardized B	p	VIF
Constant	49,957	<0,001	
Transformational leadership	1,058	<0,001	1,000
Dependent variable: Employee commitment			

Table 13. Transformational leadership style impact on employee commitment

There is no multicollinearity in the model ($VIF < 4$) – Table 13. In addition, the results of the regression model reveal that transformational leadership style has a positive impact on employee commitment - the coefficient is 1,058. The R-squared of the model 0.151 shows that the regression analysis model explains 15% of all cases determining job satisfaction. Since positive coefficients are obtained there can be concluded that the impact is positive. Although the R square in this case is < 0.200 we cannot completely rule out the relationship between transformational leadership and employee commitment; however, the model is not suitable for further prediction. Hypothesis **H6** - Transactional leadership has a positive impact on employee commitment in Covid-19 conditions – is accepted.

MANAGERIAL IMPLICATIONS AND FURTHER RESEARCH

The scientific literature review and the empirical study provide an organizing frame of reference for both scholars and managers. The results of the study reveal that organizational culture is positively related to both employee job satisfaction and the employee commitment. In addition, regardless of which leadership style environment - transformational or transactional - the employee works in, both of these styles have a statistically significant impact on the employee job satisfaction and commitment to the organization. Such results of this study could have been determined by the fact that most of the respondents are not older than 35 years (79%) as well as 84% of all the respondents have a university degree. This should be considered as a limitation of the study since the opinions of employees belonging to different age categories and having different education are not identical when evaluating

the organizational culture and the managers' leadership styles. However, for managers the study highlights two related concerns. First, the research reveals that in Covid-19 conditions, mostly working remotely, employees remain value organizational culture as it strongly impact their job satisfaction and commitment to the organization. Second, the employees' job satisfaction and their commitment is strongly impacted by the managers' leadership styles not depending on the fact that they work remotely. Therefore it is important for the managers of organizations to consider that the company organizational culture and the managers' leadership style remain significant when working remotely as it can reduce employee turnover, retain talents as well as ensure the consequent implementation of long-term human resource management programs in the organization (Adekoya et al. 2022; Magnier-Watanabe et al. 2022).

However, much work remains to be done to better perceive the advantages and disadvantages of remote work. While numerous researches focus on benefits of the remote work (e.g. Collings et al. 2021; Rodrigues et al. 2022; Rozman & Cancer 2022; Roumpi 2021), the current study explores how it might be detrimental for employees' job satisfaction and their commitment to the company during a pandemic. Therefore, scholars must further research new evidence on the most salient risks and challenges faced by remote workers as well as how the unique Covid-19 context has made them more pronounced (e.g. Ullah et al. 2022; Adekoya et al. 2022). Therefore, the scholars must continue trying to create methodologically reliable instruments to analyze the remote work phenomena as well as ways to identify best practices that would make a positive change in long-term.

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WORKING REMOTELY: INTERACTION AND RELATIONSHIPS BETWEEN EMPLOYER IMAGE, EMPLOYEE MOTIVATION AND RETENTION IN THE COMPANY

Pauliene, Rasa; Vaiginiene, Erika; Rockute, Kristina

Faculty of Economics and Business Administration Vilnius University, VU, Vilnius, Lithuania

ABSTRACT

The article aims to examine relationships between employer's image, employee retention and employee motivation in the workplace as well as the remote work moderating effect. The study starts with a scientific literature review on the research aim to understand the actuality as numerous scholars and researchers state that the time is right to examine the challenges, trends and meaningful outcomes of the massive remote working caused by COVID-19 pandemic. The quantitative research method has been applied with the empirical research instrument - a survey questionnaire, prepared by adapting previous researchers' scales. Depending on the number of respondents - similar researches samples and using a random sampling method, data of 203 anonymously filled in questionnaires have been analysed. Software IBM SPSS was applied for the data statistical analysis and six hypotheses' testing. The findings can help organizations to understand that the image of the employer remains significant when working remotely; however, such an influence is not identical. Therefore, it is important for the managers of organizations to consider of how the image of the employer interacts with the employee motivation and the employee retention when working remotely as such a consideration can help to significantly reduce employee turnover, retain talents as well as ensure the consequent implementation of long-term human resource management programs at the organization.

Keywords: remote work, employer image, employee motivation, employee retention

INTRODUCTION

Purpose of the study - to identify the influence and explore the interaction relationships between employer image, employee motivation and employee retention working remotely. Objectives: 1)To overview remote work actuality and the new organizational practice, caused by COVID-19 pandemic, in the recent human resource management literature; 2)To research the interaction and relationships between employer image, employee motivation and employee retention working remotely.

In recent years there are more and more challenges and never before experienced problems related to work regulation and organization due to epidemiological circumstances that require adjustment of both employers and employees. In response to both urgency and uncertainty caused by the COVID-19 pandemic, numerous companies had to partially or completely switch on working from home. While some employees have been working from home for at least part of the time, the new situation and the switching to work from home remains challenging for the vast majority of employees as well as their employers (Magnier-Watanabe et al. 2022, Rozman and Cancer 2022).

Such a switching inevitably influenced previous human resource management perceptions, without which the organization cannot successfully develop activities and achieve its goals. Human resources are the basis of organizations' stability and long-term competitive advantage, therefore over last decades the managers of organizations have been investing a lot of time and financial resources in such areas as employee motivation and employee retention (Lee et al. 2022; Rodrigues et al. 2022).

Among other factors, these areas undoubtedly are influenced by the employer's image, involvement in activities of corporate social responsibility, organizational culture and the values instilled in the organization: honesty, attentiveness, respect, support, collaboration, etc. Since the sudden switch to remote work the development of these long-term goals became difficult, in many cases no longer clear, as a significant number of organizations found themselves in previously untested work organization environment (Lee et al. 2022; Rodrigues et al. 2022; Willcocks 2020). It caused a necessity to re-plan previous intentions of hiring the workforce or redundancies and, in general, to re-plan the entire previous work organization (Rozman and Cancer 2022).

Interaction, relationships and interdependence between the employer's image, the employee motivation as well as the employee retention has been a significant topic to both scholars and practitioners for the past decades. However, there is no much literature and research comprehensively and systematically based on theoretical knowledge or studies about employees' concerns related to working from home during the COVID-19 pandemic, appropriately organized remote work, especially in individual countries or organizations.

The quantitative research method has been applied with the empirical research instrument - a survey questionnaire, prepared by adapting Gagné et al. (2014), Bish et al. (2016), Tanwar and Prasad (2017) scales. Depending on the number of respondents - similar researches samples and using a random sampling method, data of 203 anonymously filled in questionnaires have been analysed. Software IBM SPSS was applied for the data statistical analysis and six hypotheses' testing. The findings can help organizations to understand that the image of the employer remains significant when working remotely; however, such an influence is not identical. Nevertheless, it can help to reduce the employee

turnover, retain talents as well as ensure the consequent implementation of long-term human resource management strategy and employee motivation programs in the organization.

THEORETICAL BACKGROUND

Remote work actualization is a megatrend in the recent human resource management literature, and the COVID-19 pandemic has highlighted the importance of the remote work as a concept and an organizational practice. Remote work introduced at the workplace as early as the 1960s, when the first telecommunication networks became available to employees at their homes (Nilles 1975); however, until recent years the remote work was actual and relevant only in some types of organizations, mostly depending on their size, nature of activity and geography.

With COVID-19 possibly heralding an era of working away from the office the scholars and researchers all agree that the time is right to examine the challenges, trends and meaningful outcomes caused by the remote working (Arunprasad et al. 2021; Lee et al. 2022; Rodrigues et al. 2022; Willcocks 2020). The coronavirus pandemic has changed the world of work, since many offices left empty as most employees have been urgently instructed to work from home (International Labour Organization, 2020). The coronavirus disease (COVID-19 pandemic), which many thought would be temporary, resulted in the closure of many physical offices for over a year almost all over the World (Adekoya et al. 2022). Moreover, Rodrigues et al. 2022 state that the pandemic has forced many organizations and employees to consider flexible and remote working options, which may continue in the post pandemic era.

Despite the benefits of remote working, various organizational sectors have not fully accepted it, questioning its strengths and acceptability as an efficient and productive arrangement for getting work done. This assertion and other similar pessimistic attitudes may be responsible for the low proportion of remote working among some organizations (Adekoya et al. 2022). However, no one doubted the fact that COVID-19 has led to the “world’s largest experiment of remote working”. (Banjo et al. 2020). Number of studies on workplace flexibility undertaken during the pandemic have focused on the consequences and “dark side” of remote working (e.g. Adisa et al. 2021; Bahn et al. 2020). Therefore, numerous researchers have been trying to offer methodologically reliable instruments to analyze and study the effects of remote work in order to highlight best practices as well as long-term positive changes in the work organization and human resource management as a whole (e.g. Adekoya et al. 2022).

Employees, the most valuable assets of an organization as well as the main tool of its competitive advantage creation, are the ones who add to its value both quantitatively and qualitatively (Anitha, 2016, Lee et al. 2022). Employee retention is the organizational goal of keeping talented employees and

reducing turnover by fostering a positive work atmosphere to promote engagement, showing appreciation to employees and providing competitive motivation system as well as healthy work-life balance. Therefore, employers have taken steps to ensure that employees stay with the organization for as long as possible (Alferaih et al. 2018; Lee et al. 2022; Rodrigues et al. 2022). However, such an intention is quite challenging because the workforce is becoming more confident and demanding due to changes on markets and particularly – in demographics (Anitha, 2016, Lee et al. 2022). A disengaged workforce, both in office work and remote work case, leads to higher turnover rates that consequently increase the costs of recruiting and selecting new employees (Malinen et al. 2013, Lee et al. 2022).

METHODOLOGY AND RESEARCH DESIGN

Scientific literature reveal that employee retention is determined by how much the employee knows and how evaluates a specific employer. The evaluation of the employee is mostly related on his or her experience as well as memorized both positive and negative associations. Alshathry et al. (2017) state that employee's long-term loyalty develops over time due to positive experiences therefore it can be hypothesized that:

H1 - A favorable image of the employer has a positive impact on an employee retention in the company.

The results of a research conducted by Yamin (2020) show that an employee retention is determined by the employee motivation and this is the main factor that lets predict whether the employee will stay with the organization for a long time or not. Based on the statements it can be hypothesized that:

H2 – The higher employee motivation is the higher positive impact on employee retention in the company it makes.

Research literature suggests that motivation at work determines employee retention (Mishra & Mishra, 2017, Yamin, 2020, etc.). This is because motivation is usually determined by the same factors as employee retention, e.g. work-life balance, career development, promotion opportunities, management support, employer image, etc. (Alshathry et.al. 2017; De Stobbeleir et al. 2018), thus it can be hypothesized that:

H3 – The image of the employer has direct positive impact on the employee motivation.

H4 – Employee motivation mediates relationship between the employer image and the employee retention.

According to Flores (2019), employees who are given an opportunity to work remotely feel that their employer trusts them. In such a way stronger interrelationship is created thus increasing the employee motivation, job satisfaction and retention. Therefore, it can be hypothesized that:

H5 – High intensity of remote work has a positive impact on employees, who feel stronger relationship between the employer's image and the employee's motivation.

H6 - High intensity of remote work has a positive impact on employees, who feel stronger relationship between the image of the employer and the employee's retention.

Relationship between the researched variables depicted in the theoretical model (Figure 1).

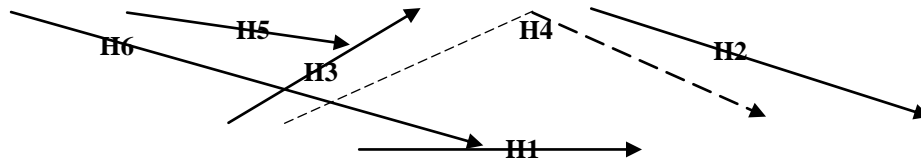


Figure 1: Relationship between employee motivation, employee retention, employer's image and remote work

Source: Authors' elaboration

To achieve the purpose of the research, a quantitative research method was chosen - the survey questionnaire was distributed on social networks that ensured opportunity to reach a large number of respondents, ask closed-ended questions and get accurate answers avoiding misinterpretations. In addition, such a research method allowed using evaluation scales approved by previous researchers. The data – the respondents' answers – analysis was performed by applying reliable statistical methods that allowed identifying relationships between the researched variables. The questionnaire consists from 5 parts and includes: 1) 19 items from Multidimensional Work Motivation Scale (Gagné et al. 2014), Likert scale seven-point, to research employee motivation; 2) 7 sub-scales, suggested by Bisht et al. (2016), Likert scale five-point, to research employee retention; 3) 23 items from Employer brand scale (Tanwar & Prasad 2017), Likert scale five-point, to research employer's image; 4) demographic questions: age, gender, education, marital status; 5) work-related questions: current position, sector, field of activity, size of the organization, ability to work remotely.

To determine the internal consistency of the questionnaire scales and the reliability of the data, the Cronbach's alpha criterion was applied. After comparing the consistency of Cronbach's alpha values obtained by previous researchers as well as this study, all Cronbach's alpha values are bigger than 0.7. Therefore, it was decided that the questionnaire is reliable and can be used for the survey and analysis. The chi-square criterion was used to determine statistical significance, considering $p < 0.05$ as a statistically significant, $p > 0.05$ as a statistically insignificant. T-test was used to determine whether the data were statistically significant and for hypothesis testing. For testing hypotheses H1, H2 and H3 linear regression analysis was used to find out of how the independent variable X (employer's image) influences the dependent variable Y (employee retention). In order to examine not only the correlations between the scales, but also the influence and its strength, a mediation analysis as well as

moderation analysis conducted for hypotheses H4, H5 and H6 testing that described the strength and direction of the relationships between the independent variable X and the dependent variable Y. To determine the strength the R-sq-chn indicator was used, as indicator from 0.02 confirms the influence and the strength of the change. In order to test the appropriateness of the data for the statistical analysis, mediation analysis and moderation analysis, it was necessary to determine the normality of the data distribution among the respondents therefore Kolmogorov-Smirnov and Shapiro-Wilk tests were used. Analysis of the collected data was performed using IBM SPSS version 26.

MAIN FINDINGS

In total 265 respondents participated in the survey; however, 203 filled in questionnaires were included into statistical analysis as it correspond to the sample size of the study as well as the respondents work remotely. The analysis of demographic characteristics of the 203 respondents revealed 58.6% female and 41.4% male and even 72.4% of the respondents with higher education (the remaining respondents have higher non-university education (11.8%), secondary (8.7%) and professional (7.1%) education). The analysis of the marital status of the respondents revealed that majority live in a couple (46.8%), live in a family with kids, parents, siblings (30.5%), while 22.7% of respondents live alone.

The analysis of working years of the respondents revealed that the vast majority of respondents have between 1-5 years (44.3%) work experience, 6-10 years - 19.7%, 11-20 years - 18.7%, less than one year - 15.3% and more than 21 year experience have only 2%. Analysis of the respondents' job positions revealed that 64% hold non-management positions and 36% hold management positions. Most of the respondents work in the private sector (85.2%), while the rest (14.8%) work in the public sector. Many respondents work in the IT sector (25.6%), in production - 14.3%, trading - 11.8%, finance - 11.8%, logistics - 7.9%, education - 5.4%, public administration - 3%, health - 3%, culture - 3%, in other fields - 14.2%. Analysis of the size of the organization revealed that majority of respondents work in a medium-sized organization (38.9%), large - 25.1%, small - 22.7% and very small - 13.3%.

To test the H1, H2 and H3 hypotheses simple linear regression analysis method was applied that resulted confirmation of all the three hypotheses: **H1**- A favorable image of the employer has a positive impact on employee retention in the company - accepted; **H2** - higher employee motivation has a positive impact on employee retention in the company – accepted; **H3** - Employer image has a positive impact on employee motivation – accepted.

The conceptual model of this study provides not only a direct relationship between the variables, but also indirect ones. To investigate it, mediation analysis was applied, in which the significance of the indirect relationship was determined. Mediation analysis revealed that employee motivation mediates

relationship between the employer image and the employee retention; therefore, hypothesis **H4** accepted.

This analysis presents an independent variable – employer's image, a dependent variable - employee motivation, and categorical variable - remote work, which was measured at three levels: 1 - low intensity, 2 - medium intensity, 3 - high intensity. However, moderation test revealed that high intensity of remote work does not have significant impact on employees, who feel stronger relationship between the employer's image and the employee motivation; therefore, the hypothesis **H5** rejected. The moderation test was applied to test hypothesis **H6** too, which revealed that high intensity of remote work has a positive impact on employees who feel stronger relationship between the employer's image and retention in the company; therefore, the **H6** hypothesis accepted.

MANAGERIAL IMPLICATIONS AND FURTHER RESEARCH

The results of the study revealed that a favorable employer image is positively related to employee retention. Both the internal and external image of an employer is important to employees when deciding whether to come to work and stay with the company. It must be noted that a favorable image creates the company competitiveness on the market therefore employees value it more favorably and want to stay in it. It also must be emphasized that the more an employee is motivated to work the more he or she wants to stay in the company and do his/her best at the work. This shows that the employee motivation is positively related to employee retention in the company that leads to employee loyalty overall. Therefore, if the employees are motivated to work at the company the employer has a lower employee turnover thus can keep the employee working in the company longer and in such a way reduces the resources for searching and recruiting new employees.

The image of the employer is positively related to the motivation of employees to work since a favorable image both externally (i.e. what other companies see) and the image inside the organization (i.e. what image is positioned for employees) causes positive attitude of the employees. Therefore, they are more productive and willing to work hard at their workplace, which causes employee motivation overall. The image of the employer has a direct positive impact on the retention of employees in the company; however, at the same time the employer's image impact on the employee retention is indirectly caused by the employee motivation retention. Therefore, it is very important to conclude that by strengthening the employer's image both the employee motivation and the employee retention will increase.

For managers the study highlights two related concerns. First, as alluded to above, the research reveals that the lower intensity of remote work, the stronger the employees value relationship between the employer's image and their motivation. Therefore, it is very important to consider that

employees, being in an office environment, feel motivated through the influence of the employer's image. However, when working completely remotely, the employee motivation is not any more significantly impacted by the employer's image. Second, high intensity of remote work has a positive impact on employee retention in the company through the influence of the employer's image. The more employees work remotely the more is important for them the image of the employer, which consequently influences both the employee motivation and the employee retention. Therefore, it is important for the managers of organizations to consider that the image of the employer remains significant when working remotely as it can reduce employee turnover, retain talents as well as ensure the consequent implementation of long-term human resource management programs in the organization.

However, much work remains to be done to better understand the remote work whereas the phenomenon is a vital necessity in critical periods of force majeure of any nature or it must be considered as main fundament of the work organization in the nearest future in periods of steady growth and stable development on markets working (e.g. Adekoya et al. 2022; Lee et al. 2022; Rodrigues et al. 2022). The scientific literature review and the empirical study provide an organizing frame of reference, both for scholars and managers. First, scholars must further understand of how and for how long the pandemic has reshaped the work organization at companies and countries. Second, despite the highlighted benefits of the remote working various organizations have not fully accepted it, questioning its strengths and such a way of working efficiency as number of studies on workplace flexibility undertaken during the pandemic have focused on the consequences and “dark side” of the remote work (e.g. Adisa et al. 2021; Bahn et al. 2020; Lee et al. 2022; Rodrigues et al. 2022). Therefore, the question for scholars at stake is: what balancing of the office work and remote work is supposed to be optimal for a company to improve the work organization and the company human resource management activities thereof? What are methodologically reliable instruments to analyze and study the effects of the remote work and how to identify the best practices that would make a positive change in long-term? We hope the current study provides an impetus for future research in this area.

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PERFORMANCE ANALYSIS AND EVALUATION OF MERGERS AT LOCAL GOVERNMENT ORGANIZATIONS: A STRUCTURED REVIEW

Pazarskis, Michail¹; Galanis, Stergios¹; Gkatzidou, Maria¹; Mitsopoulos, Konstantinos²

¹Department of Economics, International Hellenic University, Serres, Greece

²Department of Business Administration, Hellenic Open University, Patra, Greece

ABSTRACT

This paper carries out a structured literature review, through analysis and evaluation of mergers (or amalgamation) of local government bodies. More specifically, the paper presents a definition of the merger regime of local authorities, the causes, the financial status, the method of structured literature review, findings, suggestions for future research, and policy implications. Moreover, it analyzes the re-delimitation of the responsibilities of the merging bodies and the model of multi-level governance, the content of administrative autonomy, supervision and control of local authorities. A structured review of the literature is then, carried out to identify studies that deal with merger applications and evaluate their impact on the functioning of local government. It emerges from the research, that in practice the mergers of local authorities do not show an overall positive sign as to the outcome of local government through observation in various regions around the world.

Keywords: mergers, post-merger performance, structured literature review, local government organizations, LGOs, municipalities

INTRODUCTION

As the role of local governments in the public sector has increased, the question of the optimal size of local jurisdictions has become more important. Mergers of municipalities are evident in the political agenda of many countries. Arguments in favor of mergers are the development of economic scale in the service sector, the effectiveness of the restructured in terms of organization and departments, administration, and the improvement of the quality of public services.

A systematic review of the literature is carried out to identify studies that deal with merger applications and evaluate their impact on the functioning of local government. It emerges from the research, therefore, that in practice the mergers of local authorities do not show an overall positive sign as to the outcome of local government through observation in various regions around the world.

A merger (or amalgamation) is the process of “integrating one or more municipal entities into a new organization” (Blesse & Baskaran, 2016). Similarly, Beerli et al. (2018) define a merger as the

reduction in the number of local government organizations and the formation of larger ones through consolidation. Depending on the applicable legislation, this process can be either potential or mandatory (Neves et al., 2022). The merger-consolidation of local authorities constitutes a type of administrative and structural reform of municipalities, which involves the action or process of combining functions and production units into a single more efficient, or coherent whole (Hanes, 2015).

The performance capacity of a municipality is one of these functions. What is observed is that municipalities that are particularly poor performers opt for mergers (Lajmi et al., 2021). However, often mergers come to correct the “bad points” of a legal entity when, due to their structures, they are no longer able to manage the accumulated work and therefore become inefficient (Andrews et al., 2009). Inefficiencies in the structures and practices of municipalities, therefore, constitute one of the main reasons leading to merger procedures (Norgaard, 1996). Various accounting measures and financial ratios can point to a lack of performance capacity: a high level of debt, negative account balances, and problems related to the fulfillment of the tasks of the employees working for them.

More specifically, the frequency with which local government mergers are carried out worldwide tends to increase, with the result that more and more developments in local government in the states are being observed in this direction (Houcine et al., 2022). Therefore, it is deemed appropriate to conduct a research effort - an approach to the available literature to retrieve the acquired knowledge that deals with mergers of local governments worldwide. The research question in this structured review of the literature is formulated as follows:

Do mergers of local authorities have a positive or negative effect on their operating performance and efficiency?

RESEARCH METHODOLOGY

To ensure the smooth development and quality of the search process, the need arises to define in advance the criteria based on which studies will be selected or rejected (Ribeiro et al., 2018). In particular, the search is aimed at finding scientific publications, especially articles published in English (Roussy & Perron, 2018; Nerantzidis et al., 2022). Thus, this will also be a criterion for selecting the results and if books, binders, or any form of publication other than the accepted one and in a language other than English are extracted from the search, they will be excluded during the screening process (Andrews et al., 2013). The time range which delimits the search is the last 10 years, therefore articles published within this period will be selected to preserve as far as possible that the validity and adequacy of the results approximate the present time (Blume et al., 2007). Also, regarding the topic, to be a study article this review needs to rigorously address and reach a conclusion that relates to and answers the defined research question (Bodkin et al., 1971). More specifically, articles will be selected

that investigate the mergers of LGOs and draw a conclusion relevant to the evaluation of their impact on the function and role of LGOs (Dafflon et al., 2012). Finally, there will be no criterion for the region - country to which the article refers, as the phenomenon and the interest in observing it are global in scope.

At the beginning of the research to identify suitable articles, the databases Scopus and Web of Science are searched, and additional research is carried out using the scientific search engine Google Scholar (Busalim & Hussin, 2016). The database search was organized using relevant keywords in English and was conducted between 10 March and 30 March 2022, with a final update on 31 March 2022. To include in the search, the different but conceptually related terms used for this topic and to achieve a more efficient search of relevant articles, Boolean logic operators (AND / OR / NOT) were utilized (Mattei et al., 2021).

More specifically, the first term of the research question included in the search concerns mergers by absorption and in English, the most, common words used for this concept are 'mergers' and 'amalgamations'. To provide for the different formulations, numbers, and the infinitives and participles with which they may appear in the title of an article, the following keywords are derived: 'merg*' and 'amalgamat*', as the symbol '*' indicates in the search that all words of this root appear. The second part of the query, namely about local authorities, is approached in the same way. Taking into account the most commonly used words in English and the possible different forms that may be used each time, the keywords are 'municipal*', 'local government', and 'LGOs'. Then, using the Boolean AND/OR operators, the above keywords are combined appropriately to obtain the most relevant results. The following search strategy is thus obtained:

((merg) OR amalgamat*)) AND (((municipal*) OR local government) OR LGOs))*

Applying the above text to the search field of Scopus and Web of Science, with the option to search on the title of the publications and setting the publication interval between 2012 and 2022, 39 and 100 results are obtained, respectively. Then, by applying from the filtering field the restriction to display only articles as well as only in the English language the results are limited to 33 and 87 articles respectively from the two databases.

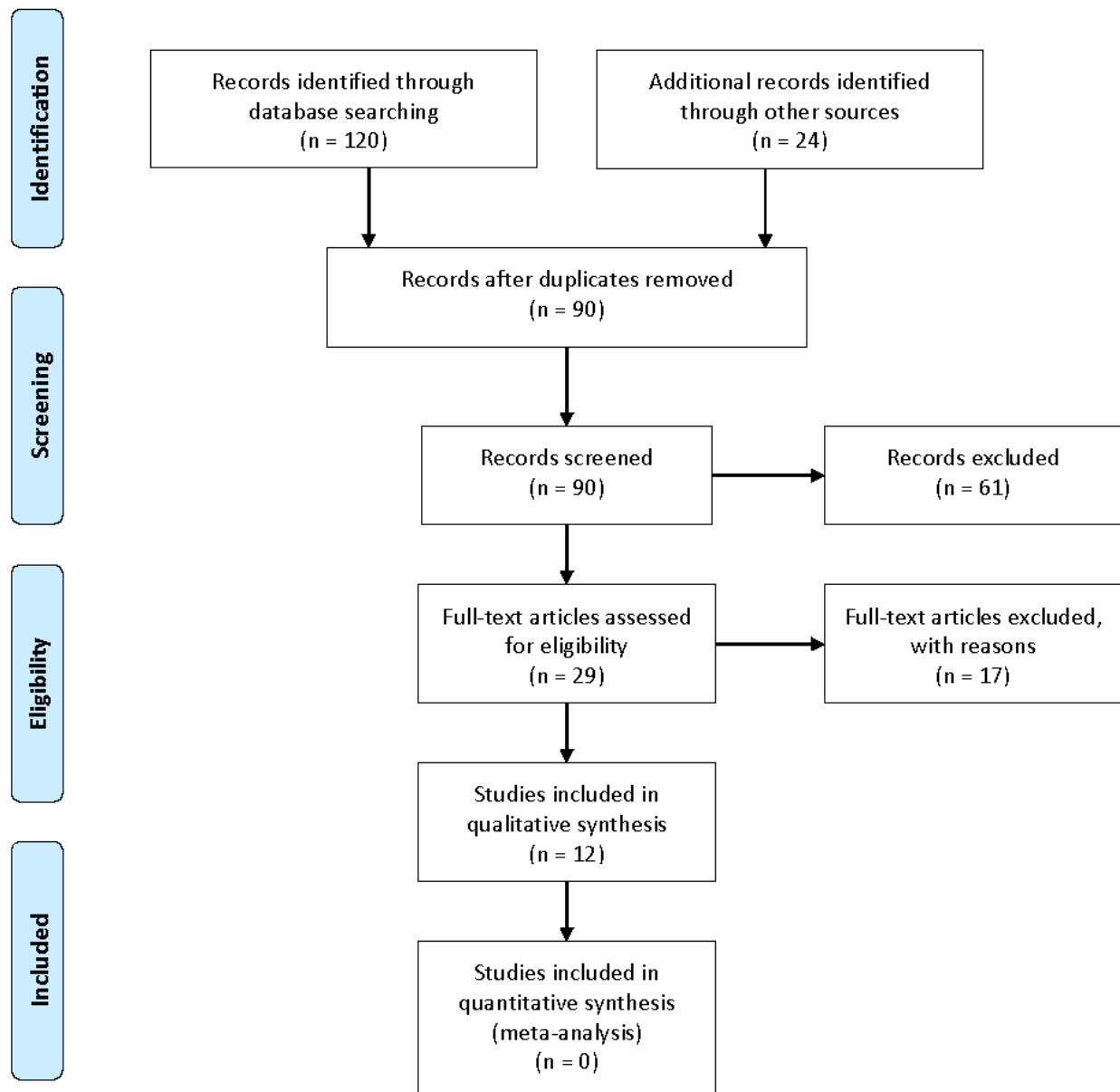
For the search on the Google Scholar search engine and since it cannot read the above strategy with the Boolean operators and the abstract symbol '*', a different approach is used. Individual searches of the following phrases are applied: 'mergers in municipalities', 'mergers in local government organizations', 'amalgamation in local government organizations', and 'amalgamations in municipalities'. The same publication period of the articles is chosen, 2012 to 2022, and an attempt is made to identify articles dealing with the topic. It is understood that this method may not obtain results that adopt different wordings from the above but deal with the same topic, however, this is

accepted in the context of the complementary search in this search engine alongside the databases to find possible sources with different origins.

The PRISMA 2009 flowchart method (Moher et al., 2009) is used to screen the studies and find those that answer the defined objective. More specifically, the publications extracted from the search were checked according to the algorithm of the below flowchart. A total of 120 articles were collected from the Scopus and Web of Science databases, while 24 articles were isolated from the Google Scholar search engine. The search results are therefore checked for duplicates, which is possible because the databases and the search engine in particular show overlap in the material they provide (Hanes et al., 2008; Miyazaki et al., 2018). In practice, after checking for duplicates and isolating them, the total 144 search results are reduced to 90. The title and summary of each article were then checked to confirm the relevance of the subject matter to the subject matter of the review, only to be checked whether the specified entry criteria or an exclusion criterion are met (Hanes et al., 2010; Holcombe & Williams, 2009; Moisio & Usitalo, 2013). This audit resulted in the exclusion of 61 articles. The 29 remaining studies underwent a thorough evaluation of the entire text to check the entry and exclusion criteria as well as the desired relevance of the topics. In this step, 17 articles were excluded because they dealt with the general axis of local government mergers but from a point of view or for a research purpose that does not serve the present review. From the reading of the remaining 12 articles, no evidence was found that would lead to their exclusion. In conclusion, these 12 articles are the results of a structured review of the literature and will be further analyzed to find answers to our research question.



PRISMA 2009 Flow Diagram



RESEARCH FINDINGS

After searching for articles from the literature and evaluating the results of the search for the desired relevance, twelve articles were found that answered the research question. Thus, answers are found concerning the impact of the merger of local authorities on the various sectors of socio-economic activity in the regions. Each article assesses the merger interventions carried out in the country under review over a specific period, and by observing the developments in the sector of

interest for each case before and after the merger interventions, tries to identify the possible influence of the interventions and its sign.

In other words, articles on this subject are identified which dethatch the evolution of similar interventions in Denmark, Australia, Finland, Austria, Israel, Germany, Switzerland, Japan, the Czech Republic, and the Netherlands. It is thus found in practice that this practice is applied in many countries of the world and is a matter of scientific thought.

The analysis of the results of the review shows that in practice mergers do not only have a positive economic effect due to the scaling up of the economic dynamics of the local authority, which is the main idea behind their conception and implementation but also have negative effects on other areas of a municipality's range of activities. The research results are tabulated in the next table.

Article	Country of interest	Merger chronology	Merger influence sector	Effect of mergers
Allers & Geertsema, 2016	Netherlands	1997 - 2011	Economy	No effect
Blom-Hansen et al, 2016	Denmark	2007	Economy	No effect
Drew et al., 2021	Australia	2016	Economy	Negative
Harjunen et al., 2021	Finland	2008 - 2009	Democracy	Negative
Heinisch et al., 2019	Austria	2010 - 2015	Democracy	Negative
Reingewertz, 2012	Israel	2003	Economy	Positive
Roesel, 2017	Germany	2008	Economy / Democracy	No effect / Negative
Steiner & Kaiser, 2017	Switzerland	1998 - 2009	Public services / Economy / Democracy	Positive / Not specified / No effect
Suzuki & Ha, 2018	Japan	2008 - 2014	Democracy	Negative
Voda & Svačinová, 2020	Czech Republic	2006 - 2014	Democracy	Negative
Yamada, 2018	Japan	The 2000s	Public services	Negative
Zeedan, 2017	Israel	2003	Democracy	Negative

Table: Summary of the results of the review.

DISCUSSION OF RESULTS

After searching for articles from the literature and evaluating the results of the search for the desired relevance, twelve articles were found that answered the research question. Thus, answers are found concerning the impact of the merger of local authorities on the various sectors of socio-economic activity in the regions. Each article assesses the merger interventions carried out in the country under review over a specific period and by observing the developments in the sector of interest for each case before and after the merger interventions, tries to identify the possible influence of the interventions and its sign.

In particular, Allers & Geertsema (2016) observed mergers that took place in the Netherlands during the period 1997 to 2011 and assessed the influence of this intervention on the economic sector of the merged regions. During the research monitoring period, no change was found in either the financial support received by the region from the central government or in the operating costs of public services and infrastructure operated by local authorities. Blom-Hansen et al. (2016) also focused on the possible economic influence of the mergers that took place in Denmark in the year 2007, followed the same framework. The outcome of their study is similar, as they do not note an effect of mergers on the economic activity and transaction of the merged local communities.

The impact of mergers on the economy is also studied by Drew et al. (2021). Specifically, they discuss the municipal mergers that took place in Australia in 2016 and identify a negative impact on the regions' economy, as the merger effort did not achieve the objectives set for its implementation. A diametrically opposite conclusion is presented by Reingewertz (2012), who observed the outcome of mergers carried out in Israel in 2003. He thus concludes that at the economic level these interventions had a positive impact over time, as it was possible to negotiate and ultimately receive more funding for the regions after the merger than they received proportionally before.

Roesel (2017) reviews the mergers that took place in Germany, specifically in the state of Saxony, in the year 2008. The evolution of the merged municipalities over time was observed and it was concluded that the mergers did not achieve any change in the economic sector and brought about negative consequences in the democratic sector. Thus, no reduction was found in the overall expenditure of the regions, nor individual areas such as education and health, as a result of the mergers, while damage to the participation in the democratic processes of the citizens of the region was also identified, as there was a decrease in participation in local elections in the enlarged municipalities. More than one area is also addressed in the article by Steiner & Kaiser (2017), in which the regions that merged in Switzerland between 1998 and 2009 are approached and the influence of the mergers on three key areas of local society is evaluated ex-post. Thus, about the public services provided, a positive influence is found as the mergers resulted in improved accessibility for more

citizens to municipal services that were previously under a different status for each municipality. In terms of the economy, it was not possible to conclude this study, while no impact of the mergers of municipal authorities on democratic processes and citizens' participation in them was found (Proctor et al., 2006).

Then, the rest of the collected articles deal with the effect of mergers on the functioning of democracy with mostly negative remarks on this. More specifically, including the researchers' systematic observation over eight years of the evolution of local communities that merged from 2008 to 2009 in Finland (Harjunen et al., 2021; Hyytinen et al., 2014). Over time, the negative effects of this intervention on democratic functioning in the newly formed local communities became apparent, as inequality in the representation of individual areas appeared; small old communities were represented with fewer members proportionally in the municipal council and there were fewer jobs in municipal institutions available for citizens than in smaller municipal areas. A similar inequality in representation in municipal processes and structures was also observed by Voda & Svačinová (2020) in the Czech Republic regarding the mergers that took place there between 2006 and 2014.

Heinisch et al. (2019) follow mergers that took place between 2010 and 2015 in Austria and conclude that democracy was affected by these interventions through a decrease in citizen participation in local elections in recent years. Suzuki & Ha (2018) point out another observation related to the negative impact of mergers on democracy. Observing the mergers of municipalities that took place in Japan between 2008 and 2014, they concluded that, after the merger, the governing bodies of the now enlarged municipal wards did not function as efficiently as before. Thus, there was a delay in both the legislative and executive functions of the local government body, resulting in lameness in decision-making and the operation of municipalities. In this context, Zeedan (2017) observing merged municipalities from the 2003 program in Israel notes the inverse relationship between the size of a local government area and the level of democratic functioning of that area. Finally, Yamada (2018) observes the negative impact of mergers, carried out in Japan in the 2000s, on citizens' access to public services provided by the municipality.

SUMMARY AND CONCLUSIONS

This research approach has framed the issue of mergers and tried to guide research thinking toward the evaluation of this practice. The analysis of the review results shows that mergers do not only show in practice the positive economic effect due to the scaling of the economic dynamics of the local government body, which is also the main idea behind their conception and implementation, but also negative effects on other areas of the spectrum of action of a municipality (Alqudah et al., 2019). Thus, regarding the impact on the economy of the region, evaluating the acquired knowledge

concludes neutrality of this practice, as three studies (Allers & Geertsema, 2016; Blom-Hansen et al., 2016; Roesel, 2017; Houlberg et al., 2014) did not observe a change in the economic transactions of the demos, while one study supports a positive and another one a negative impact on the economic sector respectively (Reingewertz, 2012; Drew et al., 2021). This heterogeneity may be different origins of the studies, thus suggesting a possible correlation of place, culture, and temperament of citizens on the outcome of the intervention. The landscape seems clearer regarding the effect of mergers on democracy as most articles conclude a negative effect (Harjunen et al., 2021; Heinisch et al., 2019; Roesel, 2017; Suzuki & Ha, 2018; Voda & Svačinová, 2020; Zeedan, 2017), while only one article came to a neutral observation, i.e. no effect on democratic processes (Steiner & Kaiser, 2017). Finally, two articles addressed the influence on the public services provided, with the first one drawing a positive conclusion (Steiner & Kaiser, 2017; Nelson et al., 1992), while the second one drawing a negative conclusion (Yamada, 2018).

From the evaluation of the conclusions drawn from this research effort, a clear reflection emerges that suggests a path for future research. (Dollery & Fleming, 2006). It is thus observed that contrary to the widespread acceptance and implementation of local government merger interventions in the majority of developed countries, the findings from attempts to observe such interventions over time seem to be in near agreement that in the majority of cases the effects of such interventions are negative in the various areas of local government action.

Thus, there is a pressing need for further research on the issue and future research needs to be oriented towards finding the possible factors that influence the outcome and the feasibility of interventions from the outset (Luchinger & Stutzer, 2002). In this context, it is possible to find factors that would allow an a priori assessment of the situation and the dynamics and sustainability of such an intervention so that in practice the positive effects observed in the economic sector and the public services provided in some municipalities could become the norm.

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THE MEDIATION EFFECT OF SOFT SKILLS IN THE RELATIONSHIP BETWEEN KNOWLEDGE AND INNOVATION: A CONCEPTUAL FRAMEWORK

Peito, Francisca¹; Ferreira, Melissa¹; Vilela, Tatiana¹; Rua, Orlando Lima^{1,2}

¹Porto School of Accounting and Business (ISCAP), Polytechnic of Porto (P.PORTO), Porto, Portugal

²Center for Organisational and Social Studies (CEOS.PP), P.PORTO, Porto, Portugal

ABSTRACT

This study aims to establish a conceptual relationship between knowledge and soft skills. Additionally, it aims to study innovation's mediating effect on the referred relationship.

A literature review about the concepts addressed in the paper and the methodology to be applied in the study was conducted. Therefore, it was decided to use both qualitative and quantitative methods. Concerning the first, we believe that conducting individual interviews and Focus Groups was the most promising approach; however, applying quantitative methods required creating a survey with quantitative answers.

Furthermore, more implications may arise in the study. Still, at the moment, we can affirm that the ones we encountered were the limitations of pre-existing studies that can provide us with necessary information. A prominent example is an insufficient information regarding the relationship between patents and soft skills, which led to the changes in the topics in the paper.

Keywords: Knowledge; Innovation; Soft Skills, Education.

INTRODUCTION

This study aims to establish a conceptual relationship between knowledge and soft skills. Additionally, it aims to study innovation's mediating effect on the referred relationship.

Knowledge is considered both an input and output, and its creation depends on internal and external knowledge (Antonelli, 2007). What is essential is not the physical input but the knowledge associated with these inputs, leading to new knowledge generation (Griliches, 1979). Additionally, the generation of new knowledge depends on investments in Research and Development (R&D), the human capital of the organisation, and spillovers. (Wang & Li, 2019). Science can be understood as a social system dedicated to producing knowledge, a source of opportunities, and fundamental to developing many innovations (Polanyi et al., 2000; Fini et al., 2021). The way science is perceived as beneficial to the

industry through the effects of academic patents is something well portrayed in the literature (Cerulli et al., 2021).

In recent years, there has been increased research on the importance of soft skills in the workplace, but unfortunately, people often underestimate the value of these skills. A specific study indicates that 75% of professional success depends on dealing with others, which is considered a soft skill, while only 25% depends on technical knowledge (Klaus, 2010). Soft skills are often referred to as personal competencies or emotional intelligence. These are defined as the ability to interact amicably with others. These skills play an important role in the modern workplace; for example, Mahasneh's (2016) study identifies a large gap in soft skills; the skills needed in graduates are communication, conflict resolution, negotiation, teamwork, organization, and others.

According to a study by Alqurashi (2012), there is a correlation between employee soft skills development and increased customer loyalty. There is an improvement in the quality-of-service delivery and employee performance. Shabir (2016) showed a statistically significant relationship between soft skills (planning, teamwork, communication), students' leadership tendencies (initiative, creativity, risk tolerance), and soft skills variables affecting entrepreneurial orientation. Aoun, Hasnan and Al-Aaraj (2018) pointed out that simplified practices significantly affect employees' innovation skills (El-Tabal, 2020).

Furthermore, we intend to answer the following research questions: RQ1: *Does knowledge positively affect innovation?* RQ2: *Does knowledge has a posit effect on soft skills?* RQ3: *Does soft skills have a posit effect on innovation?* RQ4: *Does knowledge's posit effect on soft skills mediate the relationship between knowledge and innovation?*

THEORETICAL FRAMEWORK

Knowledge

Nonaka and Takeuchi (1997) state that knowledge construction is a reflective process that involves rational and empirical thinking, mind and body, analysis and experience, and the implicit and the explicit. However, we can also consider that knowledge is derived from experiences collected over the years in everyday life, such as interpersonal relationships, reading books and various articles.

We can distinguish between tacit knowledge and codified knowledge. Tacit knowledge is less articulated and is often transmitted through face-to-face interactions, making it difficult to succeed in long-distance situations. Codified knowledge can be stored in documents and is not as limited and dependent on distances or geographical reasons (Audretsch & Feldman, 2004; Wang & Li, 2019).

Furthermore, it is vital to highlight the connection between learning and knowledge. According to Caravantes (2008, p. 20), learning is “the process of acquiring the ability to use knowledge, which occurs as a result of practice and critical experience and produces a relatively permanent change in behavior”.

According to Almeida (2007), the teaching and learning process implies a relationship between two subjects: professor and student, which is both beneficial and challenging. Although students are responsible for finding the best learning method according to each one, professors must also adapt to the academic environment to develop more effective strategies.

Soft Skills

Soft skills are a strategic component for any industrial company, and human resources must be adequately attentive throughout the recruitment process and the individual's professional career. Thus, the quality of human capital and, consequently, the product, services, and company depend on the soft skills, that is, the inherent skills in employees (Cimatti, 2016).

Any individual is held accountable for their actions. Many of their personality traits have a substantial impact on individual soft skills. Moral qualities (moderation, justice, prudence, and courage) can be classified as associated with soft skills, and these traits are relevant to the development of soft skills (Ciappei, 2015). The same author also proposes that these skills can be distinguished between entrepreneurial skills related to leadership, innovation, change management, facing risks, and technological skills, which enable the performance of specific tasks.

Cinque (2015) reverences a definition given by the Nobel Prize in Economics winner in 2000, James Heckman: “Soft skills predict success in life”, identifying a cause-effect relationship between soft skills and people's personal, and professional achievements. According to Livesey (2017), soft skills involve people's management abilities. Like El-Sabaa (2001), they refer to the ability to deal with human aspects, impacting the success of projects to a greater degree than hard skills. Moreover, they may be related to individuals' personality traits and behavioral attitudes (Ahmed et al., 2012). Balcar et al. (2018) mention communication, cooperation, leadership, independence, and creativity as an example of soft skills.

In an organizational context, this concept's primary concern is managing and working with people to achieve customer satisfaction by developing a suitable environment for delivering quality products on time and at established costs (Sukhoo et al., 2005). Andoh-Baidoo et al. (2011) also define soft skills as a core competency not tied to a given task but a person's latent ability to achieve results in specific tasks.

Innovation

Innovation and its drivers have been extensively studied at the organizational level through various perspectives, such as organizational learning, knowledge-based view, and strategic technology (Hervas-Oliver et al., 2021). These scholars also have stated that external connections and knowledge sources play an essential role in innovation.

An internal innovation involves significant changes in the firm's products, services, or processes and is R&D-based (Carlsson et al., 2011; Hung & Chou, 2013; Hameed et al., 2021). Ferrari et al. (2017) prove that innovation requires leveraging external knowledge, which is enhanced with innovation support, and in this way, external knowledge promotes innovation. Its performance can be measured through the inflow and outflow of knowledge or ideas to accelerate innovation, i.e., the higher the flow, the higher the firm's performance or, furthermore, through the commercialization of new ideas, which firms gain through licensing (Chesbrough, 2006b; Chesbrough, 2012; Hameed et al., 2021).

The company's employees play a key role in internal innovation, being the geniuses responsible for many beneficial ideas (Lassen & Laugen, 2017; Hameed et al., 2021). Interaction between employees in meetings, discussion sessions, and seminars drives innovation (Hameed et al., 2018; Hameed et al., 2021). Thus, managers must perceive their employees as one of the organization's most valuable resources to achieve efficient innovation from an internal perspective and develop mechanisms that allow their participation (Santos-Vijande et al., 2016; Hameed et al., 2021). Furthermore, Zhang and Tang (2017) showed that encouraging internal collaboration is one of the most effective management strategies for innovation creation. It allows for a greater flow of diversified knowledge that enables the emergence of new ideas. Chesbrough (2006), Hammed (2019), and Iqbal and Hammed (2020) also indicate a better allocation of external sources of information.

The organization has been adopting open innovation models, in which customers, suppliers, competitors, and sellers are part of this process (Medhi et al., 2019; Hameed et al., 2021). Before this, a close innovation model was used in which companies considered only their internal process and competencies (Chesbrough, 2012; Chesbrough, 2006b; Hameed et al., 2021).

It is also important to mention that innovation performance is essential for organizations to design and develop a sustainable competitive advantage and plays a critical role in retention and promotion decisions for talent within the organization (Anderson et al., 2014; Singh et al., 2021). Creativity and innovation are essential for any firm to boost its performance (Anderson et al., 2014; Singh et al., 2021).

RESEARCH HYPOTHESES

The Bologna Declaration refers to the importance of education and pedagogical cooperation in developing consistent societies. It considers the centralization of education quality for comparable criteria and methodologies. However, higher education is mainly directed to learning processes based on procedures that seek stability in the behavior of the economic agent, being oriented to the promotion of excellence in performances as in results.

The Bologna Declaration proposes a pedagogical model adjusted to the needs of a knowledge-based society. However, university education is still based on the transmission of knowledge. The former also refers to people's awareness to speed up academic curriculums, being these adapted to the economic and social reality (Pereira & Costa, 2017).

Moreover, students must understand new skills as they become involved in the labor market (Chen, 2016). These authors claim that graduates should have "meeting, negotiation, and networking skills" (p. 5), all of which are related to each other and act as a bridge between other generalist-oriented skills (market knowledge, management skills, and information technology use). An individual can become an expert in a particular skill related to a disciplinary field of their course or a market segment to be developed.

Stagg (1996) notes that a student's academic curriculum should be broad, comprehensive, and balanced to enable students to identify opportunities and take on responsibilities and experiences throughout their lives. It should encourage students' spiritual, moral, cultural, mental, and physical improvement. These students are empowered to differentiate themselves from the various degree holders. Hence, a new paradigm: increasingly responsible, tolerant, cooperative and social individuals with entrepreneurial attitudes that drive professional performances of excellence. Curriculums refer to cultural competencies that allow individuals to interact with different economic, social, cultural and emotional contexts, cherishing pluralism and social inclusion (Badia & Becerril, 2016; Chen, 2016).

In the 1990s, the Business and Technology Education Council (BTEC) debated the educational call and the new qualifications and skills training program (Laughton & Montanheiro, 1996). It was intended to establish a relationship between the educational system and the labor market, and there was a need for competent and efficient performance. The BTEC referred to the relevance of learning by doing, meaningful informal learning in individual and social intellectualization.

Zhou (2014) states that curriculum reforms are essential for economic and social reforms. Educational systems suitable for a competitive market and a stable knowledge-supported economy are derived from open-minded, creative and comprehensive everyday problems and collaborative learning principles. Education for innovation and entrepreneurship emphasizes theoretical knowledge, causing

some students to have little enthusiasm and participation within the classroom. This innovative entrepreneurship education makes it possible to completely reform the educational system of colleges and universities.

College students must have various skills and critical thinking to adapt to the new technological era. The complexity of knowledge requests educational systems to engage in soft skills (Martins, Martins & Pereira, 2013). The same authors encourage productivity and personal, professional, social and organizational development.

Civelli (1997, p. 226) states that “people learn not only within the confines of institutions but also in everyday life situations”, supporting the BTEC concept of validating skills learned through practice. Not forgetting the importance of academic skills, there is an increased demand for graduates with personal skills. Thus, we intend to test the following hypothesis.

H1: Knowledge has a positive effect on soft skills.

Soft skills are the competencies required for an innovation process to evolve and take root in any organization. Successful and innovative leaders use soft skills to find creative solutions to problems and put them into practice through clear and effective communication with other employees. Therefore, the most important skills are communication, creativity, and collaboration. There can be no innovation development if a company is not fully committed to learning and promoting these skills. New ideas require creativity, finding fresh perspectives and trust; implementing these ideas demands the collaboration of all members.

The ability to exercise ideas and leadership and interpersonal and team leadership is essential to move the development opportunity forward (Vise, 2004). As stated earlier, every company or organization should use the soft skills of employees and collaborators to share knowledge and continue the learning process, subsequently leading to companies becoming more creative and innovative (Ma et al., 2018; Borges et al., 2019).

Meanwhile, Martino et al. (2012) investigated the relationship between soft skills and innovation; they concluded that the characteristics above such as optimism, tolerance for uncertainty, entrepreneurial orientation, building and maintaining relationships, soft strategic skills, communication skills, and a quick study, are essential for innovation. Hendarman et al. (2012, p. 42) concluded that “information seeking soft skills positively influenced technical innovation and only hard skills positively influenced non-technical innovation”. This leads us to posit the following hypothesis:

H2: Soft skills have a positive effect on innovation.

Knowledge is considered one of the crucial factors for industrial innovations and good economic performance; it is through research that it is possible to create high-quality patents and develop new technologies. Knowledge is the core of innovation (Wang & Li, 2019).

Several authors believe scientific knowledge advocates new technological knowledge (Narin, 1997; Sorenson & Fleming, 2004; Wang & Li, 2019). In a deeper analysis, the technologies developed, based on science, present a higher quality than those which are not. (Sorenson & Fleming, 2004; Malo & Geuna, 2000; Wang & Li, 2019). Science can help in the quality of patents in numerous variables and guide industrial research, indicating more promising options (Fleming & Sorenson, 2004; Partha & David, 1994; Hall et al., 2003; Crespi et al., 2010; Henderson et al., 1998; Cerulli et al., 2021). In addition, the latest scientific knowledge is more efficient for patent quality, as it is a high-quality scientific basis. (Wang & Li, 2019). Diversified knowledge can lead to more innovation (Liao & Phan, 2016; Wang & Li, 2019).

Inventions based on academic research are considered a critical driver of innovation activities, and academic patents as a crucial technology transfer toll (Lissoni & Montobbio, 2015; Cerulli et al., 2021). The knowledge embodied in these patents translates into benefits for the companies that own the patent in the form of an increase in production and value without additional costs or better market positioning through a temporary monopoly (Cerulli et al., 2021).

The number of patents in an inventory is increasingly used to measure innovation performance. We can also add that patents are often used as an indicator of R&D output and a macroeconomic indicator of technological performance (Sapsalis & van Pottelsberghe de la Potterie, 2007). Peeters and others demonstrate that academic connections in patenting result in higher innovation performance (Cerulli et al., 2021).

The precise economic impact of science is observed in several channels: interaction between companies and university scientists (Perkmann et al., 2021), contract research (Fini et al., 2018), commercialization of intellectual property generated in universities (Agrawal & Henderson, 2002) and the founding of new ventures by academics (Zucker & Darby, 1997) (Cohen et al., 2002; Owen-Smith & Powell, 2004; Fini et al., 2021).

As far as Entrepreneurship is concerned, it can increase the chances of an academic to produce advances in scientific understanding and help them overcome the learning myopia dependent only on their educational path (Conti et al., 2014). That is, during their participation in this process, they are subjected to a new social context and exposed to new networks that cause a change in the perspective of scientists who end up directing their research towards subjects far from their discipline (Dahlander et al., 2016; Fini et al., 2021). Finally, this drives more innovative and higher impact research.

Furthermore, it increases the skills of academics as researchers, thus making them more valuable (Sørensen & Fassiotto, 2011; Fini et al., 2021).

It is also important to note that not all academics should be influenced to become entrepreneurs, so it is up to university leaders to motivate only those individuals with potentially valuable opportunities. Once a better resource allocation is made, the conditions for valuable ventures capable of generating even more promising research results are in place (Fini et al., 2021). Finally, we intend to test H3 and H4.

H3: Knowledge has a positive effect on innovation.

H4: Soft skills mediate the relationship between knowledge and innovation.

Figure 1 presents the proposed research model and hypotheses

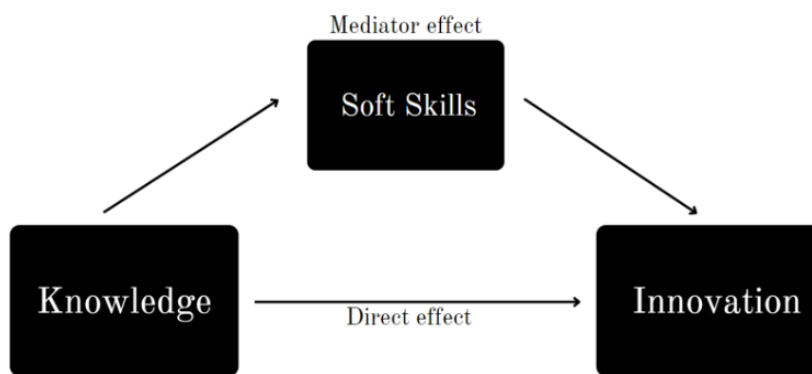


Figure 1. *Conceptual Research Model*

Source: Own elaboration.

CONTRIBUTIONS

It is expected that the development and encouragement of skills and academic learning related to entrepreneurship and innovation nature critical thoughts regarding the individual's entrepreneurial practices.

Therefore, this paper discusses the importance of teaching and the learning process in higher education among university students and professors, seeking to raise awareness of the role of these skills, particularly soft skills, on individual and organizational performance.

A mixed study (qualitative and quantitative) is proposed, seeking various opinions of future survey respondents regarding academic and soft skills essential for their individual and professional development, in parallel with the arrangement of interviews and Focus Groups. In search of networking and the consistency in answers by verifying a critical factor in the characteristics of an

Entrepreneur: the influence, that is, if the person in question is a first mover and not someone likely to follow others.

It highlighted the lack of studies that can provide the desired information, thus having to endure some changes in the course of the paper. Furthermore, since this is solely a suggestion for a study, there may be other difficulties in the future.

In further developments, it is recommended to check the clarity and perceptibility of the questions presented in the survey and the script of interviews and Focus Groups so that it is unlikely to cause any uncertainties among the participants. These methods are then followed by data collection and, thus, subsequent response checks to analyse the results, achieving generalizations in the survey.

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COVID-19 AND THE STRATEGIC RESPONSES TO CRISES: A CONCEPTUAL MODEL

Penco, Lara¹; Ivaldi, Enrico²; Ciacchi, Andrea³

¹Department of Economics and Business Studies, University of Genoa, Italy and C.I.E.L.I., the Italian Center of Excellence on Logistics Transports and Infrastructures, Italy

²Department of Political Science, University of Genoa, Italy and C.I.E. Centro de Investigaciones en Econometría – Universidad de Buenos Aires

³Department of Economics, University of Genoa, Italy

ABSTRACT

On March 11th, 2020, the World Health Organisation (WHO) declared COVID-19 crisis a pandemic. Since then, the rapid worldwide outbreak of the novel coronavirus has triggered an alarming global health crisis. This work is aimed to analyse the entrepreneurial response to crisis, proposing a conceptual model that we want to test for further research. We consider that market and entrepreneurial orientation influence the strategic responses during a period of crisis, such as the current pandemic. On the basis of the literature review on market, entrepreneurial and then strategic orientation, we propose a model for changes during a crisis for short-term adaption and long-term firm positioning.

Keywords: Entrepreneurship, market orientation, crisis, confidence, strategic responses

1. INTRODUCTION

A crisis can be examined from an internal and an external perspective. A crisis indicates unexpected and unfavourable external environment changes that create intense difficulties, emerging troubles or new threats for organisations (Vaaler & McNamara, 2004). A crisis may be interpreted as a “threat” or “opportunity” (Chattopadhyay et al., 2001), which influences the adoption of different strategic responses (SRs) to crises; in particular, the dimensions —positive/negative, gain/loss, and controllable/uncontrollable— are the most relevant categorisation for threat/opportunity (Bao et al., 2011a). With the term SRs to crises, we mean all the basic corporate choices aimed at facing crisis understood as the severe and general alteration of the company balance (Pretorius, 2008; Wenzel et al., 2020). Some SRs to crises provide interventions within the same strategic business area to recover efficiency or increase the competitiveness in terms of effectiveness (e.g. downsizing; retrenchment); SRs to crises sometimes modify the structure of the strategic portfolio (e.g. reconversion strategy; focusing strategy). This study, devoted to SMEs (Zhanna & Yana, 2020), adopts the strategic orientation framework, including the market orientation (Miles & Snow, 1978) and the entrepreneurial

orientation (Lumpkin & Dess, 1996). The strategic orientation is concerned with the strategic direction of the firm, based on perceptions, motivations and desires that precede and guide the strategy formulation and deployment processes (Massa & Testa, 2009b). The strategic orientation framework reflects the characteristics of the market orientation (MO) towards customers, competitors, and other external forces (Ferraresi et al., 2012) and the entrepreneurial orientation (EO) (Lumpkin & Dess, 1996). Concerning MO, the typology by Miles & Snow (1978) is particularly appropriate for small and entrepreneurial businesses (Rugman & Verbeke, 1988). It proposes four categories of firms: prospectors, analysers, defenders and reactors, studied especially for business performance (Anwar & Hasnu, 2017). Another dimension is related to entrepreneurial orientation (EO). The typical conceptualisations of EO include three dimensions: proactiveness, risk-taking and innovativeness (Wiklund & Shepherd, 2005; Covin & Slevin, 1991; Zahra, 1991; Wales et al., 2019). We argue that during periods of economic crisis, EO may capitalise on market opportunities by quickly adapting to unpredictable environmental changes and may even be able to construct new markets based on innovative and proactive behaviours (Covin & Slevin, 1989). By leveraging research examining the impact of the economic crisis on firm survival, this study examines how firms may capitalise on or make the most of an economic crisis (Beliaeva et al., 2020).

2. THE ROLE OF MULTI-LAYER CONFIDENCE

Below, we refer to three confidence constructs employed in this analysis.

- self-confidence expresses the confidence that characterises the agent at an individual level (Chaston & Sadler-Smith, 2012);
- macro-level confidence regards the interpretation of the external environment in terms of threats or opportunities in situations characterised by risk and uncertainty. It is affected by the profile of the different decision-makers (Benevolo et al., 2020).
- business confidence in the future determines the interpretation of the external environment toward undertaking innovative strategic choices (Koellinger, 2008).

We assume that the interpretation of external events as threats and opportunities influences SRs. The threats and opportunities framework has been relevant in examining different organisational actions responding to environmental changes (Chattopadhyay et al., 2001; Sharma, 2000). The analysis shows an inverse relationship between the pandemic impact and the macro-level confidence. The relation is at level -0.6 on the Pearson correlation scale. This trend systematically appears. However, it is more pronounced in some countries than others. The results show a high sensitivity of the confidence level perceived by economic operators and consumers to the occurrence of exogenous shocks. The decline

in macro-level confidence has affected all economic sectors considered and all EU27 countries, from the first to second quarter but to different extents (Table 1).

Table 1: results matrix of macro-level confidence and COVID-19, with differentials.

Country	Macro-level confidence (+)	COVID-19I (-)	Macro-level confidence Q2-Q1	COVID-19I Q2-Q1
Aus_Q1	37.83	30.37	-20.20	+6.82
Aus_Q2	17.63	37.19		
Bel_Q1	30.49	41.55	-22.99	+11.69
Bel_Q2	7.49	53.24		
Bul_Q1	38.99	2.79	-25.68	+25.74
Bul_Q2	13.31	28.53		
Cro_Q1	51.35	6.68	-37.88	+16.10
Cro_Q2	13.47	22.78		
Cyp_Q1	40.19	15.44	-30.32	+13.02
Cyp_Q2	9.87	28.46		
Cze_Q1	44.09	10.86	-21.63	+18.73
Cze_Q2	22.46	29.60		
Den_Q1	41.91	19.16	-19.36	+22.74
Den_Q2	22.56	41.90		
Est_Q1	44.09	15.69	-37.45	+19.86
Est_Q2	6.64	35.56		
Fin_Q1	36.73	10.42	-16.40	+27.41
Fin_Q2	20.33	37.83		
Fra_Q1	40.26	31.13	-22.85	+16.81
Fra_Q2	17.41	47.95		
Ger_Q1	38.31	21.67	-18.71	+19.88
Ger_Q2	19.61	41.55		
Gre_Q1	36.30	9.45	-23.66	+5.32
Gre_Q2	12.63	14.78		
Hun_Q1	37.52	3.14	-21.40	+23.93
Hun_Q2	16.12	27.06		
Ire_Q1	50.66	20.47	-33.18	+30.92
Ire_Q2	17.48	51.40		
Ita_Q1	31.37	44.45	-17.96	+4.91
Ita_Q2	13.40	49.35		
Lat_Q1	37.82	5.17	-24.35	+13.99
Lat_Q2	13.47	19.16		
Lit_Q1	41.82	9.45	-23.14	+15.93
Lit_Q2	18.68	25.39		
Lux_Q1	40.79	40.19	-25.78	+8.44
Lux_Q2	15.01	48.64		
Mal_Q1	42.12	9.81	-33.86	+22.96
Mal_Q2	8.26	32.77		

Net_Q1	44.44	34.17	-24.61	+13.22
Net_Q2	19.83	47.39		
Pol_Q1	41.84	2.79	-36.24	+29.91
Pol_Q2	5.60	32.70		
Por_Q1	35.36	23.96	-29.60	+22.10
Por_Q2	5.75	46.05		
Rom_Q1	47.36	6.35	-34.08	+33.08
Rom_Q2	13.28	39.42		
Spa_Q1	35.69	45.13	-29.63	+6.18
Spa_Q2	6.06	51.31		
Svk_Q1	41.84	2.15	-28.96	+10.94
Svk_Q2	12.88	13.09		
Svn_Q1	43.36	15.63	-30.06	+11.02
Svn_Q2	13.31	26.66		
Swe_Q1	47.56	23.57	-25.19	+30.01
Swe_Q2	22.37	53.59		

Source: Our elaboration on Eurostat (2020)

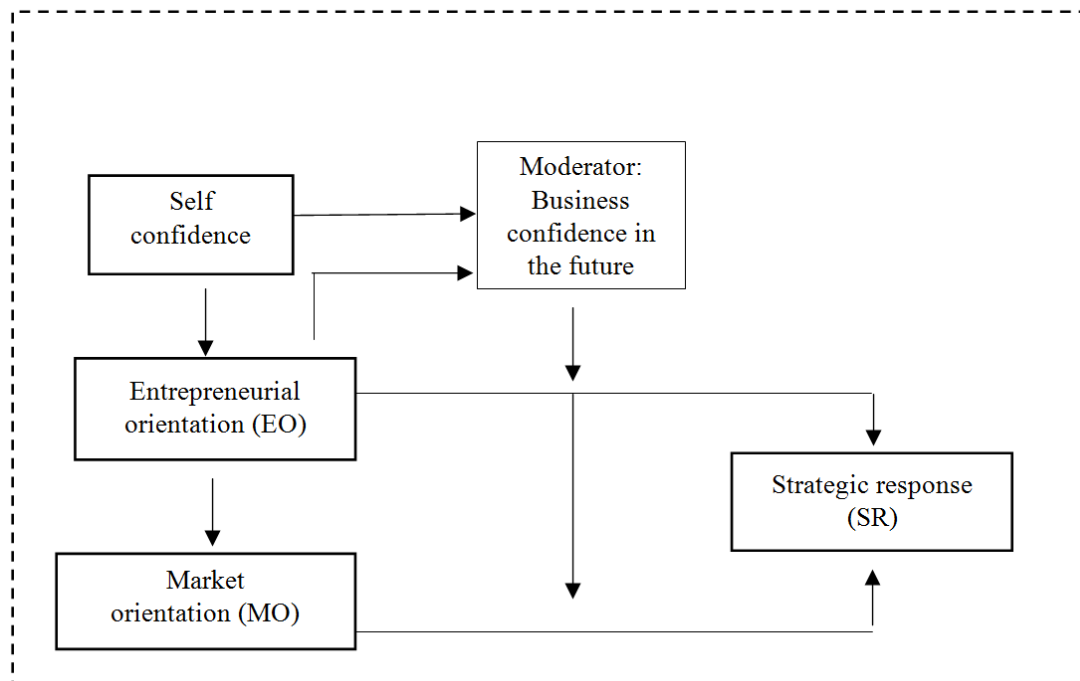
Belgium, Italy, Portugal and Spain do have especially suffered the COVID-19 crisis clinically. In these countries, confidence severely collapsed. On the other hand, developing countries, i.e. countries with lower per capita incomes and higher growth rates than the European average, show greater volatility in the macro-level confidence (e.g. Croatia, Estonia, Poland, Romania, Malta). Europe and the U.S. have adopted financial first-aid and stimulus packages for businesses to make up for the downturn. However, the destructive events coming from the COVID-19 crisis have directly affected an already unstable social fabric, causing a disintegration that could prolong the persistence of this crisis state.

3. EO, MO AND SRS DURING THE (UN)CONFIDENT MACRO-LEVEL ENVIRONMENT OF THE PANDEMIC

When EO is particularly pronounced, rooted in the very identity of the firm, and reinforced over time, it can directly influence the business's confidence in the future. In this case, a causal relationship between EO and business confidence in the future is engaged. EO produces increasing business confidence in the future even within a macro-environment potentially discouraging. The high level of EO helps enhance the controllability of the event, confirming Bao et al. (2011b). In our framework, EO directly influences MO. In fact, based on the entrepreneurial behaviour implemented at different times, the firm's capacity to adjust its operations to target markets varies. Starting from the typology proposed by Miles & Snow (1978), it is possible to define the MOs according to precise product-market combinations. In this regard, we refer again to the opposition that originates from two antithetical entrepreneurial behaviours: from one side, the development of the market undertaken by the type prospector and, from the other side, the defence of the market already acquired by the action

perpetrated by the defensor. At last, both EO and MO address the SRs and determine their different declinations.

Figure 1: Relationship model between the key concepts.



Source: Our elaboration.

We formulate research propositions based on the previous results and a literature review. These research propositions refer to the various constructs analysed in this study, i.e. MO, EO and SRs to a crisis. Our research propositions are declined as follows:

- P1: firms with a high EO are likely to adopt a prospector MO;
- P2: firms with a high EO are likely to adopt an innovating/persevering response to a crisis;
- P3: firms with a low EO are likely to adopt a defensive MO;
- P4: firms with a low EO are likely to adopt a retrenching response to a crisis;
- P5: the entrepreneur's business confidence in the future can moderate the relationship between the EO and the adoption of specific strategic choices;
- P6: the entrepreneur's business confidence in the future can moderate the relationship between the MO and the adoption of specific strategic choices;
- P7: firms with a high EO are likely to take higher business confidence in the future;
- P7 bis: we may expect that firms with lower EO take less business confidence in the future;
- P8: self-confidence influences EO, which can enhance business confidence in the future in its turn.

4. CONCLUSIONS, IMPLICATIONS, AND LIMITATIONS

The study analyses the widespread decline in macro-level confidence during the COVID-19 shock. The changes in the macro-environment and relative confidence fluctuations on a large scale have altered the *modus operandi* of the firms, as well as the definition of their strategies (Fabeil et al., 2020). This preliminary conceptual model with its prepositions shows the importance of EO and MO during a crisis. This work contributes to the two stream of literature abovementioned, extended knowledge on characteristics of a successful entrepreneur. Further studies are necessary, being the current a developing paper. As a matter of fact, the authors are currently working on both qualitative and quantitative studies based on selected SMEs operating in the Made in Italy industries. The further step of the analysis will be investigating these constructs using the multi-case study approach to catch the SR behavior. Wright and McMahan (1992) support the theoretical nature of this study. They state that a good theory could predict a significant relationship between variables used in the model. Therefore, it will be easier to test these relationships in a further step, as this study has ambitiously done.

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MANAGING FACTORS THAT REDUCE EMPLOYEE RESILIENCE UNDER UNCERTAINTIES

Ramašauskienė, Virginija

Faculty of Social Sciences and Humanities, Klaipėda University, Klaipėda, Lithuania,

ABSTRACT

Purpose: The purpose of this paper is identify the factors that reduce the resilience of employee and provide guidance to managers on how to manage them in conditions of uncertainty.

Design/methodology/approach: There were 298 employees interviewed from three Lithuanian organizations that engaged in different activities: production, trade and transportation services. A combination of qualitative and quantitative methods was used.

Findings: The following factors that reduce employee resilience were identified: the inability of employees to focus on problem solving; managers' incomprehension of how to present those problems. It was revealed that the biggest impact on the decline in employee resilience is made by managerial mistakes: failure to reveal the real state of the organization or situation, poor communication, lack of planning, lack of responsibility and leadership share.

Contribution: The provided recommendations for the management of factors that reduce the resilience of employees can be applied in various business organizations. The basis for the development of these recommendations is the analysis of the negative effects of the organization, which can be considered as a tool for human resource management, development of managerial competencies and business continuity planning in conditions of uncertainty.

Originality/value: This article fills a gap in research on the expression of factors that reduce the resilience of employee, leading to the identification and management of those factors in different business organizations.

Keywords: employee resilience, organizational resilience, change, uncertainty, management.

INTRODUCTION

The aim of the present article is to identify the factors that reduce employee resilience and to provide guidance to managers on how to manage them under conditions of uncertainty.

Currently, businesses are facing a protracted period of uncertainty caused by a changed world (Parnell and Crandall, 2020; Pilipczuk, 2021; Leta and Chan, 2021): the COVID-19 pandemic can no

longer be predicted, hostilities in Ukraine are worsening, and recession indicators are flashing red. Disrupted supply chains, reduced supply of various raw materials, financial sanctions and restrictions, social and physical security issues hinder a clear vision of the future (Gabler et al., 2017; Abdalla et al., 2021). The heads of most organizations no longer develop long-term business strategies, but try to focus flexibly on the "here and now" situation (Linden, 2021). The same is expected of employees. In an uncertain business situation, executives often expect their employees to somehow automatically understand the need to focus on collaborating in order to solve the organization's problems (Glaister et al., 2020; Niemiec et al., 2021; Doblinger, 2022). Meanwhile, under uncertainties, employees often divert their energy and efforts elsewhere: to the manifestation of negative emotions, to discussions of possible negative consequences, or to the search for adverse information (Neves et al., 2020; Khan et al., 2020; Low et al., 2021). Such "activities" do not solve problems and tend to reduce organizational resilience.

It is under consideration why even many years of successful management experiences does not help to unite employees in difficult times and motivate them to cooperate in solving problems that are relevant to everyone. This has been shown that it is hampered by changes in employee's moods and behaviors: distancing of oneself from an organization's activities and disinterest in its problems (Liang and Cao, 2021); actively expressed negative emotions and created negative scenarios (Khan 2020); the use of one-sided information, manipulation of facts and information (Borekci et al., 2020). All of these are signs of declining employee resilience (Ahmed et al., 2021; Knipfer and Kumo, 2021), which have their own causes and consequences for organizational performance.

The issue of employee resilience is rapidly gaining popularity. The components of employee resilience (Beuren et al., 2020; Prayag et al., 2020; Liang and Cao, 2021; Knipfer and Kumo, 2021) as well as the expression of employee resilience factors (Santoro et al., 2020; Borekci et al., 2021) have been intensively analysed in recent years. Moreover, differences in employee resilience depending on the perspective of organizational resilience have been considered (Hillmann, 2021; Kantaburta and Ketprapakorn, 2021; Hillman and Guenther, 2021), and prerequisites for increasing employee resilience have been examined (Duchek, 2020; Young, 2020). There is an increasing emphasis on the importance of management initiatives that increase employee resilience (Igielski, 2020; Rodrigues - Sanchez et al., 2021; Salas-Valina et al., 2022), the importance of the organizational environment (Jankelova et al., 2021; Bodziany et al., 2021) and the influence of the external environment (Skouloudis et al., 2020; Lin, 2022). However, no research has been conducted to reveal the factors of decreasing employee resilience nowadays faced by organizations in their practice and the ways of their management.

The first part of the article focuses on the concept of resilience through identifying the factors that reduce employee resilience: their expression, conditions, and impact on the activities of the organization. The second part presents an empirical study that sought to identify the factors reducing employee resilience in specific business organizations. The third part analyses the results of the study and provides recommendations on the management of factors that reduce employee resilience under conditions of uncertainty.

EMPLOYEE RESILIENCE AND THE FACTORS REDUCING IT: EXPRESSION, CONDITIONS AND INFLUENCE ON THE ORGANIZATION ACTIVITIES

Organizational resilience is developed through the relationships between the members of an organization (Raetze et al., 2021) and is therefore dependent on employee resilience (Santoro et al., 2020; Ahmed et al., 2021; Liang and Cao, 2021; Kantaburta and Ketprapakorn, 2021). The latter defines an individual's response to a disaster, unexpected event, or adverse situation through the behaviour of a particular workplace in the organization. Everyone responds to an unfavourable situation in their own way: one needs more effort to accept a changed situation; another one may be able to use the existing experience and therefore adapt faster and easier (Al-Hawari et al., 2020; Knipfer and Kumo, 2021). Although the resilience of each employee is different, it consists of the same components (Borekci et al., 2021; Liang and Cao, 2021). These are: 1) the ability to control the situation; 2) engagement in the organization's activities; and 3) the ability to accept an unfavourable situation as a challenge. The employee understands the control of the situation as his/her own influence on improving an unfavourable situation. If he/she is self-confident, then he/she is motivated, makes more effort, and shows more initiative (Campion et al., 2020). This means trying to look at the problem from all angles and spare no time or effort (Santoro et al., 2020; Chen and Zhang, 2021). The employee's engagement in the organisation activities depends on the extent to which he/she can express his/her ideas (Ramlachan and Becharry – Ramraj, 2021). This is associated with psychological ownership, which motivates problem-solving-oriented behaviour. In that way, the proactivity of the employee is revealed (Glaister et al., 2020). Its essence is to strive for positive change, especially in the areas that are most understandable and "closest" to him/her. These are the workplace, job role functions, and day-to-day operations and processes (Prayag et al., 2020; Knipfer and Kumo, 2021; Pilipczuk, 2021). Interpreting a situation as a challenge is understood as accepting a naturally occurring transformation. The employee tries to find answers to the questions posed by the unfavourable situation. The goal is to transform the status quo, which is seen as an opportunity for renewal (Jerman et al., 2020; Linden, 2021). This is directly related to creativity and innovation: employees exchange positive ideas, model new activity alternatives, and experiment (Beuren et al., 2020; Jankelova et al., 2021; Ledford et al.,

2021). That is how their mindset changes (Sellberg et al., 2018). Unfortunately, certain conditions in the organization may, in the face of a difficult situation, subconsciously encourage or support a decline in employee resilience.

The main factors reducing employee resilience are considered to be: 1) negative emotions, 2) inappropriate behaviours, and 3) one-sided use of information (Borekci et al., 2020; Knipfer and Kumo, 2021; Liang and Cao et al., 2021). As noted, in the event of a disaster, members of the organization tend to involve each other in negative emotions. The reason is simple: seeking social support (Niemec et al., 2021). Social sharing helps employees to cope with negative emotions and creates a feeling of social support. This is a type of communication that supports natural socialising, in which negative emotions are detoxified as they are discussed in a group. However, if the talks are only related to adverse scenarios and only the uncontrolled aspects of the event are emphasised, then the processes that destroy employee resilience are activated. They continue because they make employees feel a moment of calm and closeness to others. As soon as the relief is over and no change is observed, a new "dose" of negative talk is needed (Duchek, 2020; Knipfer and Kumo, 2021). Not knowing how to react to an uncertain situation, employees start behaving inappropriately. The reason is the lack of experience and the dominance of disturbed feelings (fear, confusion, or insecurity) (Liang and Cao, 2021). Since talks and emotions bring no change, adverse scenarios become even worse, as they are constantly complemented. Thus a sense of community with other negative-minded colleagues is discovered, and the organization's managers often become an object of mistrust. The spiral of negative thoughts and talks depletes employees' cognitive and emotional resources (Beuren et al., 2020; Prayag et al., 2020). A diminished sense of responsibility does not encourage positive change, but rather stimulates skepticism or indifference to deteriorating outcomes. As a result, the tasks are performed mechanically, activity is simulated, and results are manipulated. The use of one-sided information encourages and supports personal self-deception. Additional negative "facts" or details confirming the self-created adverse scenario are constantly being looked for and found. Since there is no vision for the future, something still needs to be done. Therefore, employees treat this behavior as a defense (Young, 2020; Prayag et al., 2020). For the defence, an enemy is needed, and therefore the culture of accusation flourishes: the mistakes of others or the "culprits" themselves come into view, and those can be: a colleague who thinks differently, a bad leader, no-good politicians or country leaders, or fate. In order to understand the essence of these destructive processes, it is necessary to analyse the characteristics of a natural response to a disaster: their course, development trends, and conditions for prevention (Low et al., 2021).

A situation of uncertainty begins with the occurrence of a disaster, an unpleasant event, or a situation that disrupts a normal work routine, when it is no longer clear how to return to a normal business

cycle (Rodrigues - Sanchez et al., 2021; Lin, 2022). Then one intuitively focuses on the situation and seeks to understand it. It is a cognitive stage (Kantaburta and Ketprapakorn, 2021; Hillmann, 2021). Here, the manifestation of negative emotions has important positive qualities. Negative emotions are necessary for a full picture of the situation, as they help to: 1) identify one's own and colleagues' experiences in order to use them; 2) model relationships; and 3) develop disaster recovery plans. Strong negative emotions of employees are calmed for a short time through sharing them with others. The support received from colleagues is associated with assistance, backing up, or even love (Knipfer and Kumo, 2021; Hillmann and Guenther, 2021). The essence of this stage is the ability to stop, distance oneself from the daily routine, and look back. The aim is to answer the questions: how we occurred in such a situation and what needs to be done today to make it different. The answers to these questions should lead to a better understanding of both the external environment and the organization's operations. Without the help of managers, this is usually impossible (Kogenhop, 2020; Wicker, 2021). Managerial responsibilities are to reveal the situation, linking it to the vision of the organization (Danyer, 2017); to regulate employees' emotions (Khan et al., 2020); and to present an operational strategy and a plan for its implementation (Santoro et al., 2021; Rodrigues - Sanchez et al., 2021; Župerkienė et al., 2021). The next part is the operational stage. Employees who become aware of the changed environmental conditions should begin to evaluate them based on the capabilities of the company. It is in this stage that the efforts to find a way out of the disaster should be consciously focused on through the mobilisation of resources, adjustment of roles and actions, and redistribution of priorities (Liang and Cao, 2021). The employees engaged in the process of coping with the problem learn and try to think in a non-standard way (Malik and Garg, 2020; Salas – Valina et al., 2022). They no longer have time for the manifestation of negative emotions because they are engaged in future-oriented activities. At the heart of this stage is the ability to transform both one's way of thinking and action and the ability to move towards a new balance despite hindrances. A role model of a leader is important here (Zandari and Staden, 2018; Dirani et al., 2020; Bjekic et al., 2021; Chu, 2022), with a strong emphasis on shared leadership (Pauliene, 2017; Salas – Valina et al., 2022; Doblinger, 2022). The third stage is the passive stage, which does not necessarily come. Its causes are: 1) a prolonged and uncontrolled first stage, or 2) inefficient management activities in the second stage (Neves et al., 2020; Hillmann, 2021). The uninterrupted manifestation of negative emotions becomes more than social sharing, as each member conveys their own personal problems, no longer directly related to the organisation. It is a kind of emotional "infection" that has a negative impact on the entire team (Young, 2020; Knipfer and Kumo, 2021). This stage can also be initiated by the frustration that comes after the end of the second stage. This is the stage of disappointment, when it turns out that the efforts have not worked (Al-Havari et al.) Then it is important to: analyse the errors; update external information; and

foster diversity and creativity (Igielski, 2020; Bodziany et al., 2021; Matic, 2022). The goal is to learn lessons from failure, develop new plans, and move forward again (Skouloudis et al., 2020; Jankelova et al., 2021). The point is the continuous improvement through accepting change, seizing opportunities, and creating a new balance (Strikanth and Jomon, 2020).

METHODOLOGY

The study involved three business organizations whose activities covered manufacturing (A), trade (B), and transportation services (C). The companies have operated for 25 to 28 years, the total number of respondents is 298 employees. A combination of qualitative and quantitative methods has been applied. The qualitative method was used to find out how the managers of the companies perceived the phenomena of decreased employee resilience and how they related the phenomena to the current uncertain situation. The quantitative method was used to identify the phenomena of decreased resilience experienced by the employees, if they identified and solved the related problems.

Anonymous questionnaires were used to interview all the employees of the organisations. The questionnaires consisted of 10 items. Two representatives of administration from each organisation were interviewed by means of a semi-structured questionnaire, consisting of 15 items. The harmonisation of methods has made it possible to check the accuracy and comprehensiveness of the same information through extending it in terms of both scope and depth.

FINDINGS AND DISCUSSION

The total number of the respondents was 298 employees (96 in Company A, 94 in Company B, and 108 in Company C).

The study started with a pilot interview of the executives of the companies in order to find out: 1) the general operating situation under the conditions of uncertainty and 2) the facts of decreased employee resilience in a particular organization. The managers of Company A stated that the employees had recently been particularly active in escalating various problems of the organization, but did not contribute to their solution. The managers of Company B emphasised that their employees were increasingly often discussing adverse consequences and were "getting lost" in their roles and responsibilities. The managers of Company C pointed out that the employees frequently discussed the problems of the organization, but did not engage in the solution of those problems; they developed adverse scenarios; demonstrated their distrust of the organization; and systematically searched for and disseminated any information confirming adverse scenarios. The phenomena of decreasing employee resilience in the organizations are presented in Table 1.

No.	The expression of decreasing employee resilience as indicated by managers	A	B	C
1.	Systematic escalation of problems without solving them	v		v
2.	Communication on negative consequences		v	
3.	Creation of adverse scenarios			v
4.	Lack of understanding of one's own role and functions leading to errors		v	
5.	Distrust of the organization and demonstration of it			v
6.	Search for information to support adverse scenarios			v
7.	Manipulation of information and facts	v		
8.	Avoidance of alternative information	v		

Table 1. *Phenomena of decreasing employee resilience in the organizations*

The data from anonymous questionnaires revealed that the employees in all three companies signalled the states that could be interpreted as a fact of decreasing employee resilience.

In Company A, 78% of the respondents said they did not see their role in solving organizational problems or doubt they could do anything to help the organization. It was therefore natural that 73% of the employees did not contemplate the problems faced by their organization in the period of uncertainty (Campion et al., 2020; Santoro et al., 2020). The vast majority of employees, that is 77%, did not see or feel any effort of the managers to expose a difficult situation or problem. There was no explanation nor comments regarding it. A critical decrease in employee resilience was indicated by the fact that the employees did not understand the inevitability of change (84%) or did not try to find a creative approach to problem solving (58%). Moreover, the vast majority of the employees believed that a difficult situation or event did not affect their way of thinking (64%) or did not help them to "toughen up" or become stronger (88%).

In Company B, 61% of the respondents indicated that they were not always able to present their views or insights to the managers. However, this did not prevent them from identifying with the company (70%) or improving their workplace / the functions they performed (73%). The decrease in employee resilience was not indicated by any other data, as the vast majority of the employees felt influential and important in solving organizational problems (53%), took an interest in organizational problems (64%), and saw the efforts of the managers to reveal and explain those problems (73%). Sufficient resilience of the employees was also revealed by the fact that the vast majority of them understood the inevitability of change (54%), were able to offer a creative approach to problem solving (52%), and saw the benefits of difficult situations: changes in the mindset (63%) and opportunities for improvement (51%).

In Company C, as many as 95% of the respondents did not see their role in solving the organization's complicated problems. Interestingly, a significant number of the employees (55%) were actively interested in the problems faced by the organization. However, as many as 92% of the respondents did not see any initiative of the managers in providing or explaining such information, although it is critical for employee involvement (Kogenhop, 2020; Wicker, 2021). The following data of the

questionnaire indicated a significant decline in employee resilience: 78% of them could not present their opinion to managers, 85% did not identify with the organization, 76% did not try to improve their workplace or functions; 88% did not use a creative approach to problem solving, and 63% did not believe that difficult events or problems could "toughen them up" or make them stronger.

The factors revealing decreasing employee resilience in all three companies are provided in detail in Table 2.

The factors affecting employee resilience	A	B	C
ABILITY TO CONTROL THE SITUATION (Knipfer and Kumo, 2021)			
1. Failing to see one's own role in solving the organization's problems	78 %	47 %	95 %
2. Taking no interest in the problems faced by the organization.	73 %	36 %	45 %
3. Failing to see the efforts of the managers to reveal the problems of the organization.	77 %	27 %	92 %
ENGAGEMENT IN THE ORGANIZATION'S ACTIVITIES (Liang and Cao, 2021)			
4. Limited opportunities to express one's own opinion or ideas.	45 %	61 %	78 %
5. Poor identification with the organization, not feeling part of it	46 %	30 %	85 %
6. Making no effort to improve one's own workplace or the performance of functions	43 %	27 %	76 %
ABILITY TO ADDRESS A CHALLENGE (Sellberg et al., 2018; Linden, 2021)			
7. Change is not considered to be inevitable, it is refused to be accepted	84 %	46 %	49 %
8. Creativity is not seen as helpful for problem solving	58 %	48 %	88 %
9. Complicated events or disasters do not affect the way of thinking	64 %	37 %	43 %
10. Complicated events or disasters do not help one to become stronger	88 %	49 %	63 %

Table 2. *Detailed factors revealing decreasing employee resilience*

The interviews revealed the views of each company's managers on the decline in employee resilience: causes, impact, consequences, existing management methods, and effectiveness of these methods.

The interviews with Company A's managers revealed that the company was currently going through difficult period for the business. The causes included 1) the suspension of the supply of basic raw materials from Ukraine, Russia, and Belarus due to the war in Ukraine; 2) an extremely high level of raw material prices in other countries' markets; and 3) increasing labour shortages nationwide. The managers had doubts about being able to fulfill production orders and therefore did not predict the future. The employees were repeatedly told: "We all have gone through tough times, we have recovered then, and we shall recover now. Everything is under control"(A1). Plans to reduce operations were not made public: "We do not want to disseminate anxiety or doubt ... Let them focus on their work and do what they do best" (A2).

The interviews with Company B's managers revealed that the employees in the organization had frequent conversations about negative things in their work environment. As had been observed, "after a few weeks, the new employees behaved in the same way as the old ones: they were "infected" with those gloomy outlooks" (B2). The employees saw and understood that the food sector had the potential to expand and grow. However, quite a few of them "felt anxious about the war in Ukraine; about the unstable economy, about the consequences of COVID-19 disease ... " (B2). "As we start

discussing these topics, all sorts of personal problems come into play: relationships, children, pets ... There is no end to that pessimism " (B1). The manager was frank: "I tell them increasingly more often that we have no time for empty talk ..." (B1).

The interviews with Company C's managers revealed that the business situation was critical. Due to the war in Ukraine, most transportation activities were suspended; quite a few employees were forced to leave the country. "We cannot share any plans for the future because we ourselves are merely monitoring the situation and waiting" (C1). "We would like to discuss it with the employees, but we do not know the answers" (C2). "A number of employees have already left the company, others are still waiting ..." (C1). The managers were convinced that neither the opinion of the employees nor their insights or ideas could help.

The factors reducing employee resilience in all three companies are provided in detail in Table 3, given the positions of the employees and the executives.

Factor and its expression	Employee position	Manager position
Company A		
Inability to control the situation (problems are escalated, but not solved).	<ul style="list-style-type: none"> - fail to see their role in problem solving; - take no interest in the company situation; - see no efforts of managers to explain the situation. 	<ul style="list-style-type: none"> - do not see employee contribution to problem solving; - do not provide information about the situation; - hide the actual situation.
The challenge is not addressed (manipulation of facts and information; use of one-sided information).	<ul style="list-style-type: none"> - do not change the way of thinking because they do not want any change; - do not take action, because the final decision is taken by manager; - ignore creativity, because there is nowhere to apply it. 	<ul style="list-style-type: none"> - sustain the narrowly focused employees' way of thinking; - the final decision is taken by manager; - consider putting a stop to innovation and development.
Company B		
Non-engagement in the organization activities (failure to understand one's role and functions leading to errors).	<ul style="list-style-type: none"> - limited opportunities to express one's opinion or ideas. 	<ul style="list-style-type: none"> - demonstrate "fatigue" caused by employee opinions; - do not make use of employee opinions.
Company C		
Inability to control the situation (problems are escalated, but not solved; adverse scenarios are created).	<ul style="list-style-type: none"> - fail to see their role in problem solving; - take no interest in the company situation; - see no efforts of managers to explain the situation. 	<ul style="list-style-type: none"> - do not see employee contribution to problem solving; - do not provide information about the situation; - hide the actual situation.
Non-engagement in the organization activities (distrust of the organisation and demonstration of it).	<ul style="list-style-type: none"> - limited opportunities to express one's opinion or ideas; - distancing oneself; - no effort is made to improve one's performance. 	<ul style="list-style-type: none"> - consider the employee opinion as useless; - believe the situation to be hopeless; - take no action and await natural change.
The challenge is not addressed (collection of information underpinning adverse scenarios).	<ul style="list-style-type: none"> - do not apply a creative approach to problem solving; - do not believe that complicated situations "toughen one up". 	<ul style="list-style-type: none"> - expect no improvement; - consider losses and damage.

Table 3. Detailed factors that reduce employee resilience, given the positions of the employees and the executives

As identified in Company A, the greatest impact on decreasing employee resilience was made by the employees' attitudes to the challenge: a complicated event or problem were not believed to be able to "toughen one up" (88%), and any change was expected to be avoided (84%). The organization clearly demarcated between: 1) the personal workplace and the functions the employee felt responsible for and 2) general matters of the organization that the managers were solely responsible for. Therefore, it was natural that the employees were not interested in the problems of the organization (73%), because they did not think they could influence them (78%). This limited the employees' ability to control the situation (Campion et al., 2020; Santoro et al., 2020). Interestingly, the managers deliberately supported this: they did not explain the actual situation or problems to the employees and merely oriented them to the efficiency of their direct performance. The employees were engaged in the company's operations, but only to the extent permitted by managers. Therefore, the manager did not quite correctly emphasise that "employees distanced themselves from alternative information" (A1). In fact, the employees detached themselves to the extent set by the managers. By manipulating information and facts, the employees were only trying to defend the status quo from change (Danyer, 2017; Jerman et al., 2020; Young, 2020; Prayag et al., 2020).

In Company B, the opposite situation was identified. The managers emphasised that they had observed too frequent employee discussions on adverse consequences. This information could have been confirmed by the data of the employees' questionnaires. However, the latter claimed the opposite: the employees acknowledged their role in the activity of their organization through participating in problem solving processes and taking an active interest in the situation of the company; moreover, they appreciated the efforts and support of the managers. Therefore, it can be argued that the managers' concerns about the negative communication of employees were unfounded, especially because the managers believed they communicated a lot with employees and sometimes thought: "How long can one discuss the same things?" (B2). There is no one answer to this question. Most probably discussions were needed until the uncertain situation ended and employees felt safer (Kogehop, 2020; Wicker, 2021; Kantaburta and Ketprapakorn, 2021). When the employees saw the managers' "fatigue" caused by endless questions, they (61%) were increasingly less willing to present their opinions, ideas, or fears. This already indicated a decline in employee resilience due to insufficient engagement in the organisation activity (Liang and Cao, 2021). Although employees saw organisational problems as natural challenges and opportunities for personal development, they needed more management support: more communication, more closeness, and more feedback (Kogehop, 2020; Wicker, 2021).

In Company C, the major factor in the decreasing employee resilience was that almost all employees (95%) did not see how they could influence the solution of organizational problems. The employees

spent a lot of time discussing problems, but their inability to control the situation did not lead to action (Beuren et al., 2020; Prayag et al., 2020). The support of the managers in this case was almost inexistent: they did not try to reveal or explain the current situation. The managers did not know what to do, had doubts about the future of the business, and waited. What was left for the employees? They also waited: they did not express their opinions (78%) nor identify with the organisation (85%), because they were considering leaving the job. Then it made no sense to improve their workplace or the functions of their job (76%). This indicated a decline in employee resilience due to their non-engagement in the organisation activity (Young, 2020; Prayag et al., 2020). Interestingly, in that particular company, most employees understood that change was inevitable and that complicated events or disasters forced a change in the way of thinking. However, mere understanding without taking action did not make one stronger (63%). This reduced their resilience, as unexpected events and problems were seen not as challenges but as disasters (Beuren et al., 2020; Jankelova et al., 2021; Ledford et al., 2021).

The managers of the companies received recommendations for the management of the factors of decreased employee resilience.

Companies A and C were advised to promote employee abilities to control situations. This required (1) to identify the situation and provide complete information to employees (Danyer, 2017). The managers should disclose and explain their position and further identify how the employees understood and interpreted that situation (Santoro et al., 2021; Rodrigues – Sanchez et al., 2021). The next step was (2) regulation of emotions (Khan et al., 2020). Both the expected negative consequences for the organisation and the possible positive phenomena were to be revealed. Given that, the strengths and weaknesses of the organization were to be identified that could be considered as help or disruption in solving problems and accepting change (Liang and Cao, 2021). The last step was (3) modeling the future of the organization, which included presenting the vision of the company, discussing the strategy and tactics, and developing an action plan (Skouloudis et al., 2020; Jankelova et al., 2021).

Companies B and C were recommended to engage their employees in the organization activities. Initially, they were advised (1) to perform an analysis of the change caused by the situation with the purpose of cooperation of the employees and the managers expressed through active communication (Knipfer and Kumo, 2021; Hillmann and Guenther, 2021). The aim was to share experiences, remember solutions to similar problems, collect and analyse external information, and consider various solutions and alternatives. The second step was (2) proactive action to implement change (Liang and Cao, 2021), which included resource mobilisation, redistribution of roles and

responsibilities, and adjustment of processes and procedures (Malik and Garg, 2020; Salas – Valina et al., 2022).

Companies A and C were recommended to encourage their employees to accept a difficult situation as a challenge rather than as a failure or disaster. This required (1) clear prioritisation of activities, with emphasis placed on opportunities for survival or growth (Danier, 2017). Action depended on the systematic updating of external information and the findings of the error analysis. The next step was (2) learning in the organization. This included lessons from experience (Strikhanth and Jomon, 2020), tolerance and promotion of diversity (Igielski, 2020; Bodzinay et al., 2021), and creative initiatives (Matic, 2020). The final step was to (3) emphasise managerial behaviour by revealing examples of personal resilience and shared leadership (Pauliene, 2017; Dirani et al., 2020; Bjekic et al., 2021; Salas – Vaina et al., 2022; Doblinger, 2022).

CONCLUSIONS

All three organizations faced a decline in employee resilience. The most significant factors reducing the resilience of employees have been identified: inability of employees to focus on problem solving; managers' incomprehension of how to present those problems. This is due to unanswered questions for employees in the first stage of uncertainty (Kataburta and Ketprapakron, 2021); weak cooperation between employees and management in the second stage of uncertainty (Glaister et al., 2021); the "fatigue" of employees for changes in the third stage of uncertainty (Knipfer and Kumo, 2021). It was revealed that the biggest impact on the decline in employee resilience is made by managerial mistakes: avoidance of explaining the real state of the organization or situation, poor communication, lack of planning, lack of responsibility and leadership share. The reason for these mistakes is the lack of a clear vision for the future or insufficient communication of it to the employees (Dirani et al., 2020; Doblinger, 2020).

It was revealed that the components of employee resilience depend not only on the comprehension of the vision for the future, but also on the performance of the organization, which are affected differently by the uncertainty. The ability of employees to control the situation is reduced in cases where business results are questionable or poor and managers provide unsubstantiated information about the vision of the future (Company A) or do not talk about it at all (Company C). Employees become involved in the activities of the organization when the results of performance are good and managers communicate enough about the vision for the future (Company B) or when performance is questionable, but managers communicate only positive aspects of the future (Company A). The ability of employees to accept uncertainty as a challenge is declining regardless of performance and managers' communication about the vision for the future. This component of employee resilience can

only be strengthened if managers share their responsibilities with employees and empower employees in processes of changes (Salas – Valina et al., 2022; Doblinger, 2022).

CONTRIBUTION, ORIGINALITY AND IMPLICATION

The analysis of the factors reducing the resilience of employees presented in the article is performed according to the research methodology of the mentioned phenomena, which provided an opportunity not only to identify the factors causing the resilience of employees, but also to reveal their causes, development trends and the influence of internal and external organizational environment. Based on this, management guidelines have been developed for managers that can be applied to a variety of business organizations operating in a state of uncertainty. The context of uncertainty reveals the paradox of the situation: uncertainty hinders the vision of the future, yet the condition for the continuity of any organization is the orientation to its future (Sellberg et al., 2018; Kogenhop, 2020; Kantaburta and Ketprapakorn, 2021). Management recommendations are based on the analysis of negative organizational phenomena, which can be considered as a tool for human resource management, development of managerial competencies and business continuity planning in conditions of uncertainty.

This article fills a gap in research on the expression of factors that reduce the resilience of employees, leading to the identification and management of those factors in different business organizations.

The research methodology has been successfully used in three organizations representing different types of business, but its application is so far limited to the following conditions: the number of employees of the organization does not exceed 120 employees; managers with at least 25 years of management experience; sector of activity covering only private business; applied in only one country. In the future, research in this area could be extended and it could also include the relationship between the factors contributing to the decline in employee resilience and the performance of organizations due to uncertainty.

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WHAT POLICY INTERVENTIONS ARE ABLE TO BOOST ECOLOGICAL TRANSITION IN THE AGRICULTURAL SECTOR? A SYSTEMATIC LITERATURE REVIEW

Rizzo, Giuseppina; Testa, Riccardo; Schifani, Giorgio; Migliore, Giuseppina

Department of Agricultural, Food and Forest Sciences, University of Palermo, Italy

ABSTRACT

The current agricultural system is unable to meet the growing demand for food in a sustainable way. There is an urgent need to guide farmers towards more conscious and environmentally friendly practices. In an effort to succeed in this endeavour, governments have focused on developing tools to be used in various food and environmental policies. Among these tools, nudge interventions are gaining popularity for their ability to trigger changes in farmers' pro-environmental behaviours. The current study aims to provide a systematic and updated overview of the literature on the impact of the three types of nudge interventions, as well as of the approaches used, and their effectiveness in boosting ecological transition. An extensive literature search was conducted on Web of Science and Scopus. In the end, 14 studies were included in the review. Almost all of the articles included in this review provided evidence that nudging can be a suitable technique in promoting more sustainable practices. Overall, the results suggest that nudges can be valuable allies of traditional environmental and food policies; they should be seen as potential tools to be implemented with the goal of moving the agricultural sector toward the ecological transition.

Keywords: sustainability; policy tools; ecological transition; agri-food sector; salience nudge; social comparison nudge.

1. INTRODUCTION

Feeding the world's population in a sustainable manner is one of the main challenges of this period (Ferrari et al., 2019). In 2050, it is expected that the population will grow by 34% putting a strain on the agri-food system (FAO, 2011). This will lead to a major increase in food demand for which agricultural production will have to increase by almost 70% (FAO, 2009), with enormous consequences in terms of natural resource use and greenhouse gas emissions (Tubiello et al., 2014). The imbalance between supply and demand suggests the inadequacy of the current agricultural system, that by nature can be described as polluting and wasteful (MacArthur, 2018). Thus, there is a need for an ecological transition in the agricultural sector where farmers are pushed to choose sustainable, environmentally

friendly, and more efficient practices (Dessart et al., 2019). However, despite the benefits of these practices in the agricultural sector are widely recognized, their adoption rate remains below the level designated by the Sustainable Development Goals (SDGs) identified by the United Nations for 2030, as many farmers are reluctant to adopt sustainable practices (D'Amato et al., 2021). In order to push farmers towards a sustainable path, over the past decade, governments have focused on developing tools to be used in various food and environmental policies (Cairney, 2015). According to Galle (2014), these tools can be categorized into three main groups, namely (1) command and control, (2) economic tools, and (3) information and education tools. The first covers permit to pollute (Holland and Moore, 2015), the second include subsidies, taxes, or incentives; while the third rely on the provision of information at various levels. More deeply, the first two categories can be grouped within the sphere of traditional policy tools, while information and education tools are innovative tools derived from notions of the behavioural sciences (Blumenthal-Barby and Burroughs, 2012). Traditional economic tools are the most popular ones among policymakers and, among other things, are used to incentivize behaviour change among farmers (de Vries and Hanley, 2016). However, empirical evidence on the effectiveness of these tools is mixed (Böcker and Finger, 2016). Some authors argue that they are ineffective in the short run due to hoarding activities (Buchholz and Musshoff, 2021), other authors argue that such instruments require a redistribution of tax revenues to the agricultural sector to avoid significant income effects (Skevas et al., 2012).

In contrast, policy instruments based on insights from behavioural economics and psychology seek to gently nudge individuals toward desired behaviour (Blumenthal-Barby and Burroughs, 2012). Among these tools, nudge interventions are gaining popularity for their ability to trigger changes in farmers' pro-environmental behaviours (Schubert, 2017). Indeed, nudge interventions are a cost-effective way to modify behaviour, although their effect may be moderate, as they can be applied to a large population at low cost (Schubert, 2017). The main feature of nudges is that they change individuals' behaviour by acting on their cognitive limitations, rather than improving their ability to make rational decisions (Thaler and Sunstein, 2008). This is in contrast to the traditional policy approach that uses tools based on the assumption that individuals behave rationally (Thaler and Sunstein, 2008). Given that nudging has primarily been viewed as an alternative means of inducing desired behaviours without resorting to mandatory rules (Thaler and Sunstein, 2008), it can also be applied as a preventive measure to promote compliance with existing regulations. In this case, it is a complement to mandatory law and a partial substitute for costly controls and penalties.

However, despite the promising potential of nudges used to help achieve sustainable goals, research testing the effectiveness of nudge-based interventions in the agricultural sector is still in its infancy (Chabé-Ferret et al., 2019). As a result, there is still relatively little evidence on the adoption of green

nudging tools in promoting the ecological transition among farmers. The majority of green nudge interventions studied dealt with the effect of salience nudge and social norms nudge in boosting ecological transition, producing in some cases conflicting results. Therefore, a systematic review of the literature (SLR) is helpful to provide a classification of the main nudges, as well as of the approaches used, and to synthesize the effectiveness of nudge in boosting farmers' ecological transition. To the best of our knowledge, only one SLR (see Ferrari et al., 2019) has provided a classification of the main nudge interventions used to stimulate this pro-environmental behaviour, distinguishing the effect between salience nudge and social norms/comparison nudge. However, this SLR did not take into account a third category of nudging interventions resulting from a combination of the two types of nudge, leaving gaps that inhibit the full understanding of the nature, and challenges associated with the phenomenon under study. To fill this gap, the current study aims to provide a systematic and updated overview of the literature on the impact of the three types of nudge interventions, as well as of the approaches used, and their effectiveness in boosting ecological transition. The results of this review will contribute to this field of research by providing insights that may be relevant to future research and applications of nudging, as well as future policy formulation.

2. METHODOLOGY

2.1. Selection process

Developing a SLR means to deepen and analyse all studies previously published in the literature, in order to provide a complete picture of current knowledge, give new insights and highlight possible gaps within the selected topic, directing future studies on what they should investigate (Brereton et al., 2007). In order for the study to have a scientific foundation, a strict protocol must be established that explains the process to be performed. Typically, this includes the research question, the selection of the primary studies (using a Boolean algorithm), determining the criteria for admission to the review, measuring the quality of the selected manuscripts, and summarizing the results. The research question "What policy interventions are able to boost ecological transition in the agricultural sector?" guided the choice of key terms for the literature search. Specifically, the search for articles to be included in the SLR was based on relevant terms usually adopted in the literature on the topic. All selected terms were searched in title, keywords and abstracts of articles contained in Scopus and Web of Science databases, applying the following Boolean algorithm that was launched in April 2022: ((("social norms" AND nudg*) OR ("social comparison" and nudg*) OR (behavioural AND nudg*) OR ("green nudg*")) AND (farm* OR agricultur* OR policy OR sustainab* OR ecologic*)).

The two databases Scopus and Web of Science were chosen for their completeness and reliability (Page et al., 2021). To follow the suggestion of Pati and Lorusso (2018), who state that in order to achieve robust work the team should have at least three members, three researchers were involved in the present SLR, so possibly disagreements between two researchers can be resolved by a third member.

2.2. Study selection criteria

To identify primary studies for review, we adopted the key steps of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), an evidence-based guide consisting of a checklist and flowchart (Page et al., 2021); the procedure is provided in Fig. 1.

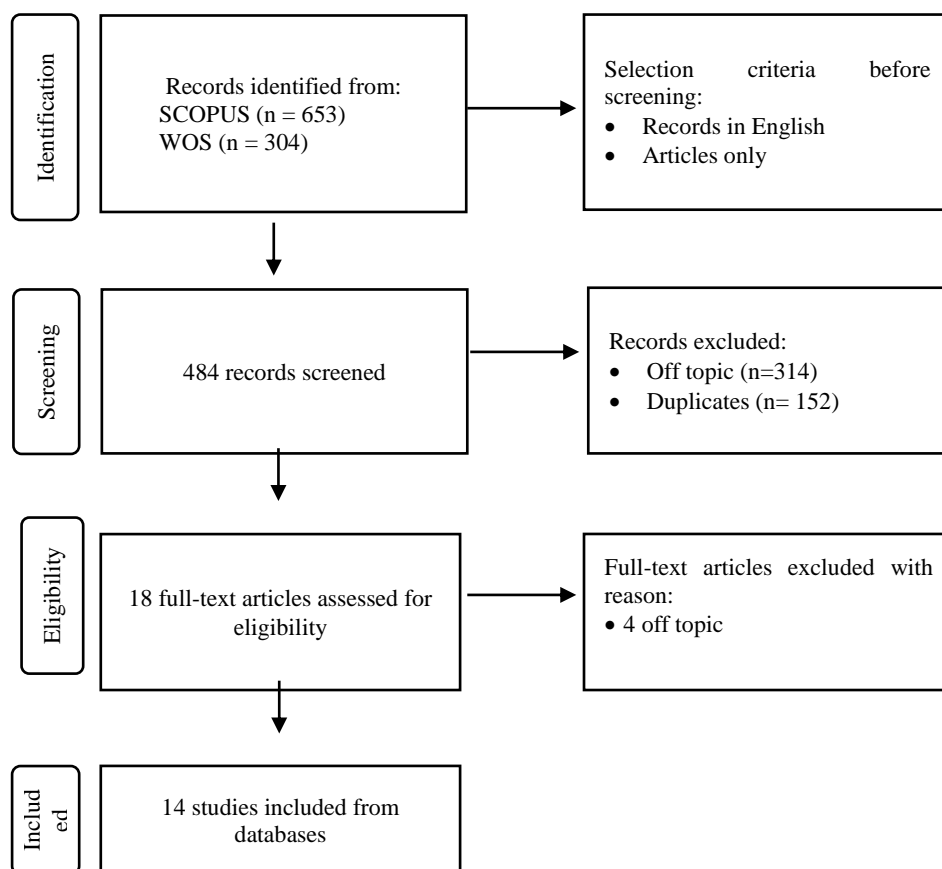


Fig. 1. PRISMA.

Using the Boolean algorithm, 653 studies were identified in Scopus and 304 in Web of Science. We performed an initial screening of the articles reading titles and abstracts and excluding duplicates and off-topic papers, resulting in 14 eligible articles. Next, we read the full articles to better understand their topic and quality. Specifically, we measured article quality using eight criteria identified by van Dinter and colleagues (2021) (Tab. 1).

Quality criteria	Question
Q1	Are the aims of the study clearly stated?
Q2	Are the scope, context and experimental design clearly defined?
Q3	Is the proposed solution clearly explained and validated by an empirical study?
Q4	Are the variables in the study likely to be valid and reliable?
Q5	Is the research process documented adequately?
Q6	Are all the study questions answered?
Q7	Are the negative findings presented?
Q8	Are the main findings stated clearly in terms of creditability, validity, and reliability?

Table 1. *Quality assessment checklist*

According to these authors, an article can be positively evaluated if it reaches at least a total score of 4, achieving a score of 1, 0.5, or 0, if it meets each criterion completely, incompletely, or not at all (van Dinter et al., 2021).

3. RESULTS

3.1. Year of publication

Figure 2 shows the years in which the studies included in this SLR were published. It can be seen that most of them were developed in recent years. In fact, apart from the two articles that were recorded in 2009 and 2013, the rest were published from 2016 onwards. This highlights the growing importance of the topic among experts, despite the fact that it still needs to be explored in depth (the fact that the number of articles is so low is a testament to this). Surprisingly, no articles were recorded in the year 2020.

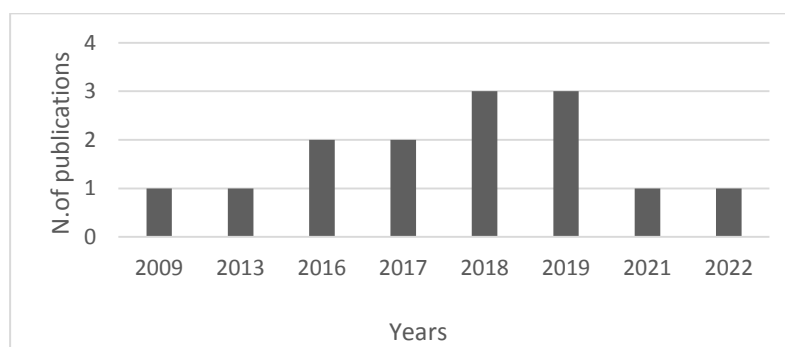


Fig. 2. *Years of publication of recorded papers*

3.2. Countries where the study was conducted

The articles in the review refer to studies conducted in 6 different countries. Most of the studies were carried out in Europe. Specifically, 4 studies were conducted in France, followed by Germany (3

articles), the UK with 2 papers. Other studies were carried out in the USA (3 articles) and Vietnam and China with 1 article each.

3.3. Research approaches used

Data collection was essentially carried out in three ways: experiment/game, SMS/letters-based communication and interviews. To the first group belong contextualized lab-in-the-field experiments and business management games. Farmers were faced with deciding on innovative business strategies, while at the same time receiving information about what other farmers would do. To the second group belongs the Randomized Controlled Trial, through the use of SMS or periodic letters to which it was necessary to provide a response; also in this case, everyone received information on the average choice about the sustainable issue investigated. Finally, interviews were done face-to-face, by telephone, or through online questionnaires. All studies were based on convenience samples and data collection methods were generally, briefly described.

3.4. Quality assessment

The articles were assessed for overall quality. This assessment was performed by applying the eight quality criteria presented by van Dinter et al., 2021 (Table 1). Each article was assessed for satisfaction of eight different requirements.

The quality assessment was developed independently by three scholars and all discrepancies were deeply discussed to reach a common final judgment. The final scores obtained ranged from the lowest score of 5 to the highest score of 8. The mean was 7.18 and the median 7.

3.5. Summary of results

Table 2 lists the fourteen articles that studied nudging as a means of directing farmers to take pro-environmental action. Specifically, for each, information about nudging (type and mode of presentation) and the main results to which its use has led are presented. Next, these items are described by grouping them on the basis of the type of nudge applied.

Reference	Nudge approach	Principal results
Nguyen-Van et al., 2022	Social comparison nudge: Information about the average group investment	The social comparison nudge positively impacts farmers' investments in organic farming.
Howley and Ocean, 2021	Social comparison nudge: Information about the percentage of farmers who believe other farmers should innovate	The estimated treatment effect is positive, i.e., farmers in the treatment group express a higher level of interest in the technologies than the control group.
Buchholz and Musshoff, 2021	Green and social comparison nudge: 1) Information about the risks associated with pesticide application, 2) Use of a traffic light label in order to specify that high pesticide intensities coloured red is less desirable from a societal perspective	The combination of the two nudges can help mitigate the adverse effects of pesticide applications and encourage the adoption of more precise application systems.
Chabé-Ferret et al., 2019	Social comparison nudge: Information about average water use by other farmers	Nudge generate a reduction in water use, but at the same time, the intervention appears to have stimulated water use among farmers who previously did not use any (boomerang effect).
Byerly et al., 2019	Social comparison nudge: Information about a lot of colleagues in the area are part of the environmental protection program	Nudge had the opposite effect to that hoped for. It shows that if farmers do not know those are in program, they are driven to follow the more common norm of non-participation from their network.
Peth et al., 2018 (a)	Green and social comparison nudge: 1) Some images highlight the negative consequences of not complying with the rule 2) It is reported that most other farmers in the area comply with	Both nudges significantly reduced the proportion of subjects not complying with the minimum water distance rule. However, the combination of the two nudges did not have a stronger preventive effect than the individual treatments.

	the rule	
Peth et al., 2018 (b)	<p>Green and social comparison nudge:</p> <p>1) Information about environmental and health damages caused by breaching the minimum-distance-to-water rule</p> <p>2) Additional social comparison is presented</p>	The results show that nudging had very different behavioural effects based on the subjects who experienced it: it worked well between those who were already rule-abiding, but within the group that violated the rules it increased the severity of offenses.
Czap et al., 2018	Green nudge: Information about ecological damage created by poor agricultural practices	Financial incentives affect males more than females, while empathy nudging affects only females. The combination of incentive and nudge lead to a synergetic effect for females, but not for males.
Mills et al., 2017	Social comparison nudge: Information about the other farmer's expectations	Farmers' attitudes toward the environment may be influenced by those in their reference group and their perception of how other farmers view them through social norms.
Wallander et al., 2017	Social comparison nudge: Information about the number of farms participating in the program	Periodic reminder letters sent (nudge) are effective at encouraging farms to participate in Voluntary land conservation program.
Kuhfuss et al., 2016 (a)	Green nudge: Information on the environmental benefits of adopting sustainable agricultural practices	Informing farmers on benefits of adopting sustainable agricultural practices can induce them comply with sustainable agriculture. The way information is framed, positively or negatively, has no significant effect.
Kuhfuss et al., 2016 (b)	Social comparison nudge: Information about a collective bonus	Additional bonus contributes to increased expectations of farmers on others' participation.
Barnes et al., 2013	Social comparison nudge: Information about water management by other farmers	Increased policing and financial threats effects behaviours negatively. On the contrary, inclusion of farmers within these group-level information sharing exercises may have the effect of raising social-norms and thus increase voluntary adoption of water quality management mechanisms.

Chen et al., 2009	Green and social comparison nudge:	Social norms at the neigh-boyhood level had significant impacts on program re-enrolment,
	1) Information about conservation payment and program duration	suggesting that social norms can be used to leverage participation to enhance the
	2) Information about neighbour behaviour	sustainability of conservation benefits from PES program.

Table 2. Summary

3.5.1. Social comparison nudge

Nguyen-Van et al. (2022), using a contextualized field laboratory experiment with 220 farmers in North Vietnam, examined the factors influencing farmers' choice to convert to organic farming. Their experimental design involved social comparison among farmers belonging to three different types of social networks. The results suggest that social comparison nudges (i.e., information about average investment) work best where everyone can learn about the farming activities developed by their peers. This result is consistent with the findings of Howley and Ocean (2021), who, in analysing the results of a randomized survey experiment consisting of 1,800 farmers, concluded that nudge has a greater effect if farmers are interested in how they appear to other farmers operating in the same area. Similarly, Kuhfuss et al. (2016b) found that applying a bonus to incentivize farm enrolment in agri-environmental schemes had the desired effects through a social comparison mechanism among farmers who influenced each other's behaviours.

These three examples suggest that social comparison nudges may work better if farmers know their peers and have the opportunity to compare with each other. In fact, Byerly et al. (2019) in their study involving farmers in forested areas, found that social comparison nudge had no effect because land preservation program members did not know each other.

In addition, other studies (Mills et al., 2017; Wallander et al., 2017; Barnes et al., 2013) have found that the effect of social comparison nudge is contingent on farmers' prior knowledge and experience. In fact, Barnes et al. (2013), using social norms to nudge farmers to choose suitable management techniques produced mixed effects stemming from the prior knowledge of study participants. In fact, nudging had no effect among those who did not understand the link between water pollution and the presence of nitrate in water. Wallander et al. (2017) found that nudge used to incentivize farmers to take part in pro-environmental measures was strongly influenced by farmers' past behaviour (having already participated in similar programs or not). Again, Mills et al. (2017) examined farmers' willingness to voluntarily adopt pro-environmental practices and maintain them over the long term. Their results found that social norms can influence producers in their decision to run their businesses more sustainably. However, they suggest that farmers may respond to nudges heterogeneously, depending on their specifics. Finally, Chabé-Ferret et al. (2019) found some curious results. In an attempt to use social comparison nudging to incentivize proper water use, the intervention appears to have stimulated water use even among farmers who previously did not use water (Boomerang effect). Certainly, the nudge had an effect because it influenced those who received the message, however, in this specific case, it did not have the desired effect.

3.5.2. Salience nudge

The study by Czap et al. (2018) was conducted through a laboratory experiment. It focused on the use of salience nudge to encourage proper farmer behaviour with respect to water conservation, finding that salience worked well in promoting water conservation, especially when combined with financial incentives. Similarly, Kuhfuss et al. (2016a) investigated whether farmers could be prompted to maintain adherence to environmental management regimes through interventions designed to deepen the importance of environmental concerns. According to their findings, these interventions worked well in keeping producers enrolled in such schemes long-term. These two examples suggest that green nudge can be a good choice in directing farmers in the desired direction. In fact, while few in number, both studies reported significant results, thus reinforcing the potential of this tool to be used for environmental policymaking.

3.5.3. Combination between salience and social comparison nudge

Buchholz and Musshoff (2021) investigated the effects of fees and nudge on pesticide applications. Regarding nudge, farmers were confronted with a stylized traffic light label that simultaneously intended to inform them about the correctness of the amount of pesticide used from an environmental protection perspective (red=incorrect; green=correct) and activate social norms by sending a signal to participants that high pesticide intensities coloured red are less desirable from a societal perspective. The results showed that combining the two nudges can be a winning strategy. In contrast, in a similar study by Peth et al. (2018a) who also used nudging to direct farmers to use fertilizers correctly, the results showed an overall positive effect from using the two types of nudges used individually; however, they found that the impact of the two nudges together was no stronger than that of the two used individually. In addition, Peth et al. (2018b) stated that nudging had very different behavioural effects based on the subjects who experienced it. In other words, the combination of two nudges worked well between those who were already rule-abiding, but within the group that violated the rules it increased the severity of offenses. Finally, Chen et al., (2009) studied the effects of a range of possible factors on farmers' intentions to maintain forest on their Grain-to-Green Program (GTGP) plots if the program ends. The results showed, that when combining social norms to salience nudge, neighbourhood-level social norms had a significant impact on re-enrolment in the program, suggesting that social norms can be used to leverage participation to improve the sustainability of the conservation benefits of the PES program.

4. DISCUSSIONS

The growing consideration of nudges as a tool to address environmental policies has led to the need to create a comprehensive framework on the topic (Peth et al., 2018) and to incentivize the study of

the real effect of this tool, which is still scarcely used in the agricultural sector (Chabé-Ferret et al., 2019).

Specifically, this SLR investigated the effect of salience and social comparison nudges, and tried to understand if using them in a coupled way could lead to promising results. The overall results confirm the promising prospect of using nudges in the study of farmer behaviour.

However, it remains unclear whether nudges are able to generate robust and lasting behavioural changes (Schubert, 2017). Furthermore, the use of nudging is at the centre of a debate in which opponents argue for the partially manipulative way in which it attempts to model human behaviour. Indeed, as explained by Thaler and Sunstein (2008) nudges aim to alter people's behaviour by exploiting individual and social cognitive biases, rather than acting to improve their ability to make informed, rational, and conscious choices. This is even more true if the nudge in question is that of social comparison, which reinforces the desire of the indivisible to be desirable from society's perspective (Buchholz and Musshoff, 2021). Indeed, social comparison nudges are likely to work because social comparison is one of the most ubiquitous features of human social life (Chabé-Ferret et al., 2019).

This peculiarity has generated concerns about the legitimate application of this tool (Ferrari et al., 2019). Therefore, while recognizing the significant potential that nudges may have in redirecting behaviour toward a more sustainable trajectory, further studies should be considered to provide even more knowledge that could be used as a guide for successful policy formulation.

A different line of reasoning applies to the salience nudge. This tool aims to encourage people to voluntarily contribute to environmental protection by making them aware of an environmental problem that could be solved or mitigated by the activation of sound agricultural practices (Schubert, 2017). Through the salience nudge therefore, farmers could acquire new information providing them with a new perspective capable of triggering the need for a change in their behaviour (Mills et al., 2017).

It follows that, since the two nudges influence farmers for different reasons, as the social comparison nudge involves social norms and the salience nudge takes into account environmental attitudes, it could be a winning strategy move to pair the two instruments.

5. CONCLUSIONS

This SLR, provided a systematic and updated overview of the literature on the impact of the three types of nudge interventions, as well as of the approaches used, and their effectiveness in boosting ecological transition. However, despite the promising results, some limitations of this review must be highlighted. The main limitation is implicit in the nature of the review itself (Paul and Criado, 2020).

Indeed, even though a rigorous procedure was developed, one must assume that having to replicate this work, another group of researchers may obtain similar, but not perfectly equal results. A further limitation of this study is the exclusion of books and conference proceedings, although this choice was supported by the protocol used. Furthermore, for the same reason, it is possible that other studies have been published on platforms other than Scopus and Web of Science.

In addition, potentially interesting studies may not have been filtered out because they may not have the specific key search terms in their text.

Despite these limitations, important implications can be drawn from the finding of this SLR. Firstly, these results provide a clearer picture of the current literature on nudges applied to farmers and create a useful guideline for those scholars who intend to tackle new research in this field. Moreover, regarding the methodology of the investigated studies, since it emerges that no study used statistically representative samples of the reference population, we suggest that future research should aim to achieve greater external and internal validity, involving larger/representative samples of farmers (since almost all studies relied on limited and convenience samples) and applying robust and transparent (and therefore replicable) data collection methodologies.

At the policy level, the current results provide insights that contribute to the ongoing policy debate on the most effective measures to promote the adoption of sustainable practices. Understanding which nudges influence farmer decision-making would enable the development of more appropriate and effective agri-environmental policies. Nudges can be valuable allies of traditional environmental and food policies; they should be seen as potential tools to be implemented with the goal of gradually moving the agri-food system in a direction that could benefit everyone, namely complete sustainability.

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DIGITALIZATION IN THE EVENT INDUSTRY: A BIBLIOMETRIC ANALYSIS

Romanova, Anastasia

Graduate School of Economics and Management, Ural Federal University, UrFU, Ekaterinburg, Russia

ABSTRACT

The event industry faces big challenges accelerated by the COVID-19 pandemic in issues of digitalization and implementing digital technologies. However, research related to the state-of-the-art of the event industry in the context of digitalization is scarce. This paper aims to provide an overview of the scientific literature on this topic to understand how digital technology and digitalization are changing the event industry and what research topics are the most promising for further exploration.

Bibliometric analysis of the existing body of knowledge on the topic was conducted and results were visualized using CiteSpace 5.8.R3. A total of 1999 articles and proceeding papers from the Web of Science database published in 2007-2022 were selected for our analysis without excluding any categories. The data was obtained through specific keywords related to our research topic. We have generated a co-occurrence network visualizing the connection between keywords with the strongest citation bursts in scientific publications. We further identified top-ranked articles around which new scientific knowledge can potentially form and compiled an agenda for possible future research. The most influential countries, journals and authors contributing to the research of digital technologies in the event industry around the world were defined on the basis of this research. The main trends revealed are issues of crowd management, research concerning different aspects of customer experience with regards to the impact of digitalization and event-based social networks. This study contributes to the research of the state-of-the-art of the event industry in issues of digitalization and implementing digital technologies.

Keywords: event industry, CiteSpace, digitalization, digital technology, research hotspots, research trends.

INTRODUCTION

The paper aims to provide an overview of the state-of-the-art of event industry in the context of digitalization to understand how digital technologies change the event industry and what research topics are the most promising for further exploration. Today, the event industry faces big challenges

accelerated by a negative impact of the COVID-19 pandemic. Significant questions remain as companies grapple with comprehending the full impact of the coronavirus pandemic. Experts and practitioners of the event industry are in agreement that all event organization phases have been affected by digitalization. According to event professional community EventMB's 2021 report, 90% of respondents agree that all large-scale events will be hybrid or virtual in two years (Wennekers, 2021). Due to all these challenges, issues regarding digitalization and implementing digital technologies will quickly be of great importance for event organizers. However, the scientific research related to the state-of-art of the event industry in the context of digitalization is scarce. This paper provides a survey of the scientific literature on this topic in order to understand how digitalization impacts the event industry and offers a future research agenda.

To answer these questions, a bibliometric analysis of the existing body of knowledge on the topic was conducted and the results were visualized using CiteSpace 5.8.R3. A total of 1999 articles and proceeding papers from the Web of Science Core Collection published between 2007 and 2022 were selected for our analysis. Articles, authors and countries ranked by bursts of citations around which new scientific knowledge can potentially form were identified, and an agenda for future research was compiled. We have generated a co-occurrence network visualizing the connection between terms and keywords with the strongest citation bursts in scientific publications.

This study has three main contributions to the existing literature. First, it reflects the state-of-the-art event industry in the context of digitalization. Second, the paper shows developmental trends in the event industry, which assists researchers in more deeply understanding the evolution of research hotspots in the field. And at lastly, it provides an enumeration of the most influential journals, countries and authors contributing to the research of digital technologies in the event industry around the world.

The paper is organized as follows: section 2 describes the source selection and methodology of the study. Section 3 presents the emerging trends, a visualization of co-citation clusters of published papers and analysis of the scientific community, intellectual structure and keywords and term-clusters to identify research hotspots including the time-zone view of keywords. In section 4 the authors give the main implications of the study from both practical and theoretical points of view. The last two sections are devoted to discussions and conclusions.

RESEARCH METHOD

Bibliometric analysis plays a significant role, as a valuable research method, for quantifying scientific works, discovering interactions among scientists, and understanding recent advances in research (J. Moretto, *et al.*, 2019). Bibliometric and network analysis was conducted, and the results were

visualized using CiteSpace 5.8.R3 based on papers published in the Web of Science Core Collection database (WoS). CiteSpace, is a Javabased scientific visualization software developed by Chaomei Chen at Drexel University (Chen, 2016). WoS is the world acknowledged database of scientific papers. The Web of Science Core Collection fully covers over 12,000 highly acclaimed impact journals worldwide. Based on articles and proceeding papers in the Web of Science Core Collection database we selected a set of publications for our

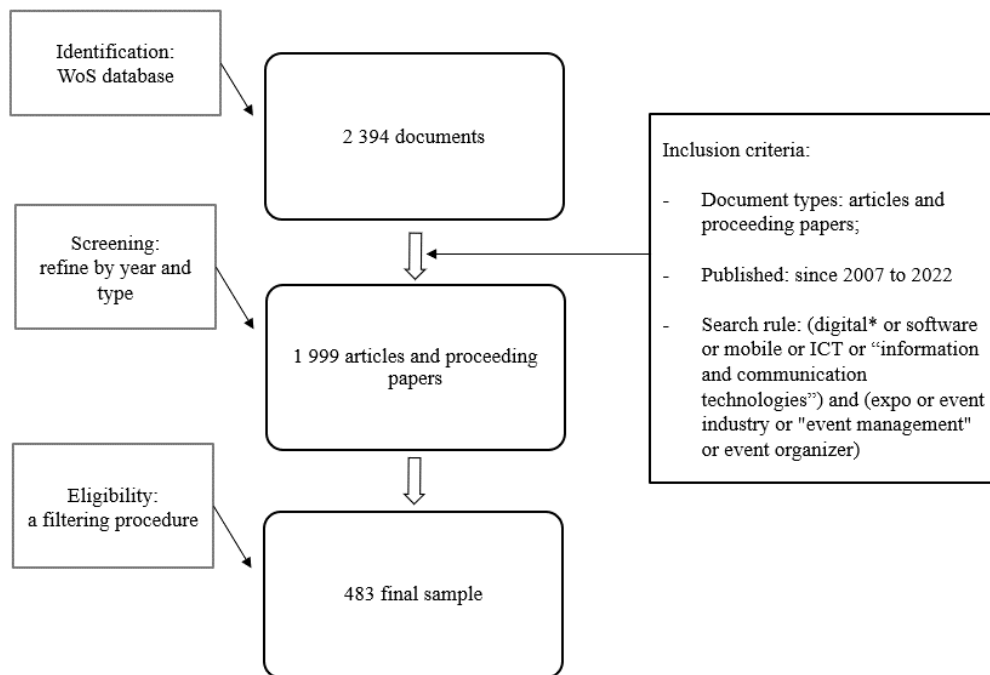


Figure 1. An overview of documents selection procedure.

analysis. The data was obtained through specific keywords related to our research topic. In this study, the method involves a process of three main stages: data collection, data processing and the bibliometric analysis. An overview of the selection procedure can be seen in Figure 1.

Data collection

Data collection for analysis was conducted in February 2022. To perform this study, we followed a multi-step analysis. First, we searched for scientific works published in the Web of Science database during the period from January 1977 to January 2022, focusing on papers that contain the terms “digital” and “event industry” in the topic. Our initial search revealed 678 documents. To avoid the omission of targeted publications more keywords were included based on a review of the literature discussing digital technologies in the event industry. The search query applied was (digital* or software or mobile or ICT or “information and communication technologies”) and (expo or event

industry or "event management" or event organizer). With the search completed we obtained 2 394 documents. Then, we refined our list such that it only included articles and proceedings papers published since 2007 (before this year a number of publications were insignificant) to 2022 and obtained 1 999 publications.

Data processing

At this step, a filtering procedure to improve the search relevance was performed. A total of 1 516 unrelated documents were excluded. For instance, the collocation "event management" occurred together with the phrase "security information" and formed the scientific term SIEM relating to the security sciences but not the event industry. In the end, a total of 483 articles and proceedings papers were obtained for subsequent bibliometric analysis.

Bibliometric analysis

Bibliometric analysis was performed using the CiteSpace 5.8 R3. At the first step we visualized co-citation clusters of published documents obtained with a reference as a node, the largest clusters generated were described. At the next step of our bibliometric analysis, we analyzed the scientific community and intellectual structure for the topic of digital technologies in the event industry choosing a country, authors and journals as node types. Data obtained allowed the author to describe the main features of the scientific community contributing to the topic. Then, co-occurrence analysis of high-frequency keywords was performed providing a reasonable description of research hotspots. The time-zone view was used to display the dynamics of research hotspots chronologically. At the final step of the bibliometric analysis developmental trends in the context of digitalization in the event industry were revealed based on the analysis of citing references for terms with the strongest citation bursts.

RESULTS

Document co-citation network analysis

With *a reference* as a node CiteSpace generated 48 clusters with 12 clusters visualized and a network of co-citation documents with 547 nodes binding with 3376 links. Clusters in the network are labeled by classic LLR algorithm as depicted in Figure 2. The program provides two values – modularity (Q value) and average silhouette (S value) – which define the quality of clustering and the degree of homogeneity. Our network has Modularity Q value of 0.8197 and the Silhouette of 0.9178. It means that the dividing of our network is significant and reasonable (Chen, 2016). According to network partition and visualization of the largest clusters, new clusters and references with the strongest

bursts citations can be described. The four largest clusters are cluster #0, #1, #2 and #4, their characteristics and label collocations are described in Table 1. Based on a time-line pattern new clusters formed in 2019, 2020 and 2021. These are clusters #5, #0 #1. It's worth noting that new clusters appeared and formed in the last three years are the largest ones at the same time. In CiteSpace, a reference with a strong burstiness usually indicates a potentially interesting work that has attracted significant attention within a short period of time (Chen,2016). The top-12 references with the strongest citation bursts were defined by CiteSpace (fig.3). Among them there are 6 articles from cluster #0 devoted to various tools analyzing human movement or crowd management at mass events. For instance, some authors studied the use of mobile applications (Blanke *et al.*, 2014), Bluetooth (Weppner *et al.*, 2013; Versichele *et al.*, 2012) or Wireless Identification and Sensing Platform (Mowafi *et al.*, 2013) for analysing dynamics of human movement, crowd management and density at mass events, while Wirz, the author with the highest burstiness value (6.29), described a system able to infer and visualize in real-time crowd density, crowd turbulence, crowd velocity and crowd pressure that has a crucial meaning for mega-events organizers.

CiteSpace, v. 5.8.R3 (64-bit)
 March 26, 2022 8:06:33 PM YEKT
 WOS: C:\Users\RAH\citespace\Examples\WoS\test1\data
 Timespan: 2008-2022 (Slice Length=1)
 Selection Criteria: g-index (k=25), LRF=-1.0, L/N=5, LBY=-1, q=0.7
 Network: N=547, E=3376 (Density=0.0228)
 Largest CC: 387 (70%)
 Nodes Labeled: 1.0%
 Pruning: None
 Modularity Q=0.8197
 Weighted Mean Silhouette S=0.9178
 Harmonic Mean(Q, S)=0.866

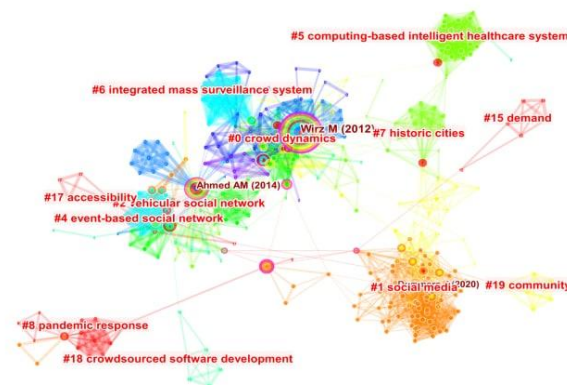


Figure 2. Document co-citation network

Cluster ID	Size	Silhouette	Label (LSI)	Label (LLR)	Label (MI)	Average Year
0	96	0.83	virtual reality	crowd dynamics (47.41, 1.0E-4)	computational modeling (1.67)	2008
1	84	0.892	social media	social media (50.56, 1.0E-4)	contextual cue (2.86)	2001

2	41	0.961	social characteristics	vehicular social network (50.07, 1.0E-4)	using location-based social media data (0.16)	2011
4	37	0.975	event-based social network	event-based social network (91.44, 1.0E-4)	bilateral recommendation strategy (0.23)	2008

Table 1. *The largest documents co-citation clusters*

Issues of crowd management and tracking human mobility during mass gathering events are important for the event industry and the emergence of digital technologies such as the internet of things, event-based mobile social networks etc. makes it easier for event organizer to handle it (Wirz *et al.*, 2013). A 2018 article by Laurell C is the most cited over the last two years, according to a list of references with the strongest citation bursts. The article contributes to extant literature within the field of event management by depicting how the digitization of festival engagement adds increased complexity in regard to the management of consumer engagement (Laurell and Bjorner, 2018).

References	Year	Strength	Begin	End	2007 - 2022
Versichele M, 2012, APPL GEOGR, V32, P208, DOI 10.1016/j.apgeog.2011.05.011, DOI	2012	3.74	2013	2015	
Wirz M, 2012, IEEE ENABL TECHNOL, V0, P367, DOI 10.1109/WETICE.2012.26, DOI	2012	6.29	2014	2018	
Ahmed AM, 2014, IEEE ACCESS, V2, P500, DOI 10.1109/ACCESS.2014.2319823, DOI	2014	4.05	2014	2019	
Blanke U, 2014, P IEEE 9 INT C INT S, V0, P1, DOI DOI 10.1109/ISSNIP.2014.6827652, DOI	2014	4.29	2015	2018	
Liu X, 2012, P 18 ACM SIGKDD INT, V0, P1032, DOI DOI 10.1145/2339530.2339693, DOI	2012	3.66	2015	2019	
Weppner J, 2013, INT CONF PERVAS COMP, V0, P193, DOI 10.1109/PerCom.2013.6526732, DOI	2013	3.65	2015	2018	
Wirz M, 2013, EPJ DATA SCI, V2, P0, DOI 10.1140/epjds17, DOI	2013	3.33	2015	2016	
Liao GQ, 2013, PROCEEDINGS OF MANAGEMENT (CIKM13), V0, P1655, DOI	2013	3.24	2015	2018	
Mowafi Y, 2013, TOP HIST PHIL, V0, P157, DOI 10.1109/FGCT.2013.6767212, DOI	2013	3.09	2015	2017	
Subramaniaswamy V, 2017, J ORGAN END USER COM, V29, P51, DOI 10.4018/JOEUC.2017100103, DOI	2017	4.7	2019	2020	
Silva-Pedroza D, 2017, SUSTAINABILITY-BASEL, V9, P0, DOI 10.3390/su9111937, DOI	2017	2.98	2019	2020	
Laurell C, 2018, EVENT MANAGE, V22, P527	2018	2.95	2020	2022	

Figure 3. *Top-12 references with the strongest citation bursts*

Scientific community analysis

In the study main features of the scientific community contributing to the topic digitalization in the event industry were described by countries, co-cited authors and journals. Choosing a country as a node in CiteSpace we have three different lists of countries measured by burst, centrality and frequency. In terms of the strength of citation bursts, Japan is the leader while Malaysia is a country with the longest 4-years period of citation (fig.4). The article was financed by the Ministry of Education of Malaysia and written in co-authorship with English scientists. It provides a review of intelligent evacuation management systems covering the aspects of crowd monitoring, crowd disaster prediction and evacuation path guidelines (Azhar *et al.*, 2016). Most of the papers published in Japan are devoted to digital solutions for sports events and facilities (Watanabe *et al.*, 2018; Sato *et al.*, 2018) as well as issues of using digital technologies for analyzing behavior of the attendees at some large-

scale events or pedestrian flow analysis (Urano *et al.*, 2019; Yamamoto *et al.*, 2018; Fukuzaki *et al.*, 2014). The list of countries by

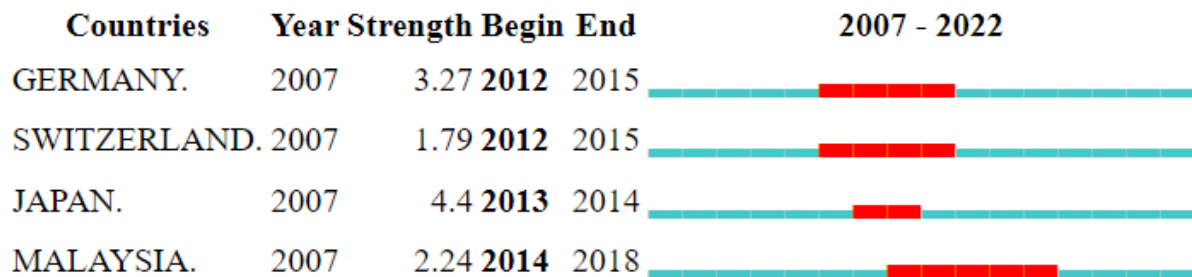


Figure 4. Top-4 countries with the strongest citation bursts

frequency and centrality are provided in Table 2. At the same time based on the frequency People's Republic of China and the USA should be highlighted. These two countries are leaders in the category of number of published papers. England placed third at a frequency of 38 and Germany was ranked fourth with a frequency of 28. These are the countries most active in conducting academic research on the topic. According to the Betweenness Centrality Index, the USA and England play an important role in connecting and collaborating with researchers in other countries.

Another way to analyze a scientific community is to analyze co-cited authors. The network of cited authors based on citations determines the most impactful and prolific authors.

No.	Country	Frequency	Centrality
1	People's Republic of China	103	0,12
2	USA	74	0,28
3	England	38	0,26
4	Germany	28	0,12
5	Japan	26	0,02
6	Australia	24	0,02
7	India	22	0,05
8	Canada	22	0,11
9	Italy	21	0,09
10	Spain	19	0,05

Table 2. List of countries by frequency and centrality

CiteSpace 5.8.R3 visualized a network of co-cited authors including 595 nodes binding with 5 279 links. Modularity ($Q=0.6165$) and Silhouette ($S=0.8606$) were high enough to ensure a good partition of a network. The largest cluster (#0) has 115 members and a silhouette value of 0.833. It is labeled as crowd dynamics by LLR and virtual reality by LSI. The most relevant citer to the cluster is Moussaid Mehdi

where the authors discussed how novel technologies based on the virtual signals emitted by users' smartphones can be used to deepen our understanding of crowd behavior (Moussaid *et al.*, 2018).

Citation counts	Author	Cluster ID	Centrality
47	Wirz, M, 2014	0	0,12
24	Liu, X, 2015	3	0,28
24	Getz, D, 2017	1	0,26
20	Helbing, D, 2015	0	0,12
20	Ahmed, AM, 2014	3	0,02
20	Blanke, D, 2014	0	0,02
20	Buhalis, D, 2013	2	0,05
19	Demmers, J, 2021	1	0,11
19	Hair, JF, 2018	1	0,09

Table 3. List of top ranked co-cited authors by citation counts

Wirz, Liu X., Getz D are on the list of the most cited authors by counts presented in Table 3. Getz is mainly cited by his paper where the author examined event tourism as a field of study and area of professional practice (Getz and Page, 2016). Event tourism is a globally significant sector of the economy and has a direct relation to the event industry. The second author cited with the frequency of 47 considers location-aware smartphones for monitoring crowds during mass gatherings as an alternative to established video-based solutions (Wirz *et al.*, 2013). The findings could be easily applied to any mass event including World Expos or festivals. Top-3 journals in terms of citation counts are Lecture Notes in Computer Science (LNCS, book series) – 93, Tourism Management – 69, IEEE Access – 73.

Co-occurrence keywords analysis

Co-occurrence analysis of high-frequency keywords provides a reasonable description of research hotspots of digital technologies in the event industry. According to the analysis there are 20 keywords with a frequency of more than 10 among which keywords with a higher centrality are more significant. The centrality value of keywords impact, social media, model and system exceeded 0.1. This means that these four keywords hold important positions and have connections with other keywords in the network. To display the dynamics of research hotspots chronologically in the field of digital technologies and digitalization in the event industry, the time-zone view was used. As shown in figure 5, most keywords defining hotspots appeared in the period between 2016 and 2018 including model, big data, event-based social network, system, social media. During this period most scientific papers were focused on the study of mobile applications (Thanos *et al.*, 2016), recommendation algorithms in event-based social networks (Wang *et al.*, 2017; Mo *et al.*, 2018), digital technologies, particularly in MICE tourism including NFC (Silva-Pedroza *et al.*, 2017) and big data

(Kim *et al.*, 2016), or location-based models that could have a practical importance for event organizers solving the issue of analysis of complex dynamics of visitors' moving at mass events (Frontoni *et al.*, 2016).

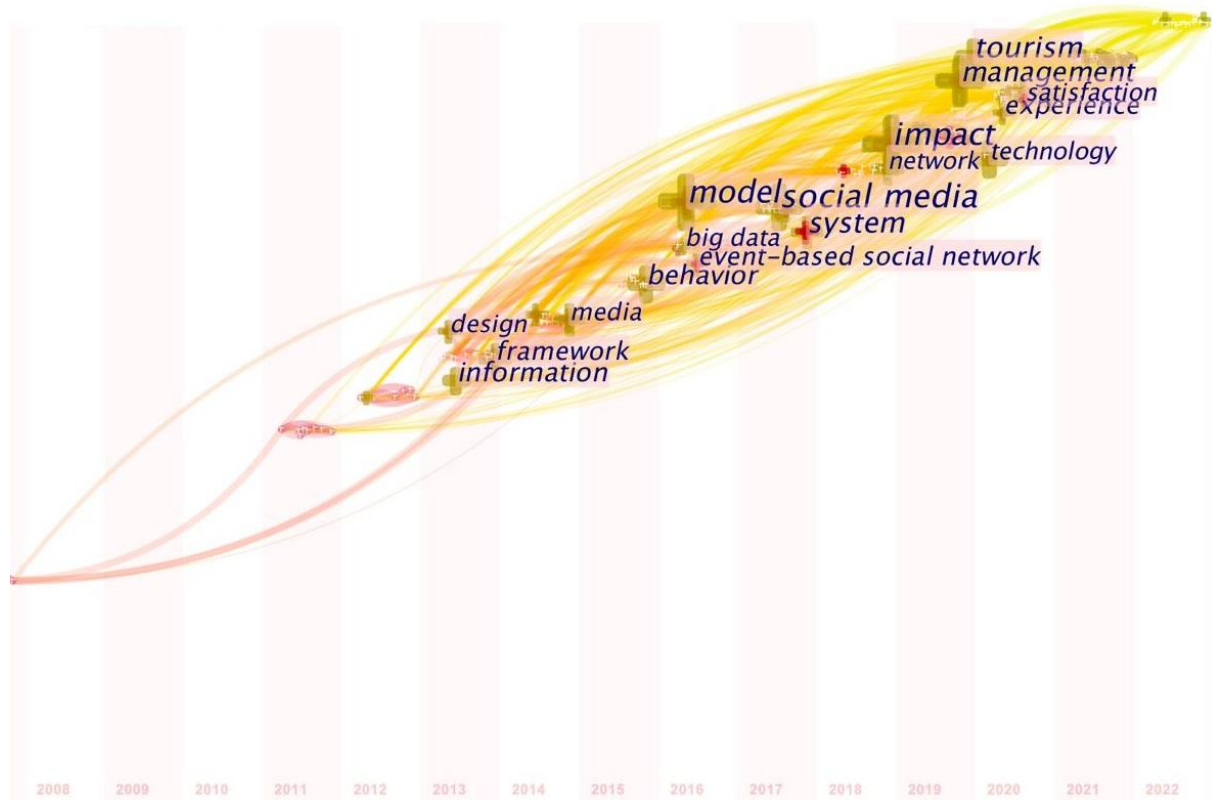


Figure 5. Time-zone view of keywords co-occurrence network

The highest-frequency keywords over the course of the last two years between 2019 and 2021 included “impact”, “technology”, “management”, “tourism”, “experience” and “satisfaction”. Articles citing these words are mainly devoted to conceptual aspects of business and smart tourism as well as a study of innovations and technologies such as IoT, sharing platforms, gamification etc. used in the event management to engage and interact with customers. For instance, the article by Martins studies the problem of crowd engagement through the use of a mobile game developed in the context of entertainment events (Martins *et al.*, 2020). Another study offers a conceptual model, exploring pre-event game communication and its effect on attendees' value perceptions, willingness to participate during gameplay at conference events (Sisson and Whalen, 2021).

Future research agenda

The terms with the strongest citation bursts occurred after 2016 indicate the research frontiers in the past five years (see fig.6). We analyzed the citing references for four burst terms including mobile application, event-based social networks, mobile devices and social network and revealed three main

trends in the event industry development in the context of digitalization by combining the results with the findings discussed in the results sub-sections.

The first one is crowd management and security issues during events of different types. Use of mobile applications offering services to spectators or special-purposed applications designed for MICE, mega-events, business events for common issues such as crowd management (Wirz *et al.*, 2013; Moussaid *et al.*, 2018; Mowafi *et al.*, 2013) or outdoor and indoor localization (Xiang *et al.*, 2017) could become an even more powerful tool for event organizers. With the use of digital technologies, it is easier for event managers to analyze consumer behavior, to collect and process large data sets and personalize the customer experience.

It's noteworthy that two articles authored by Ahmed M. and Silva-Pedroza D. which citing

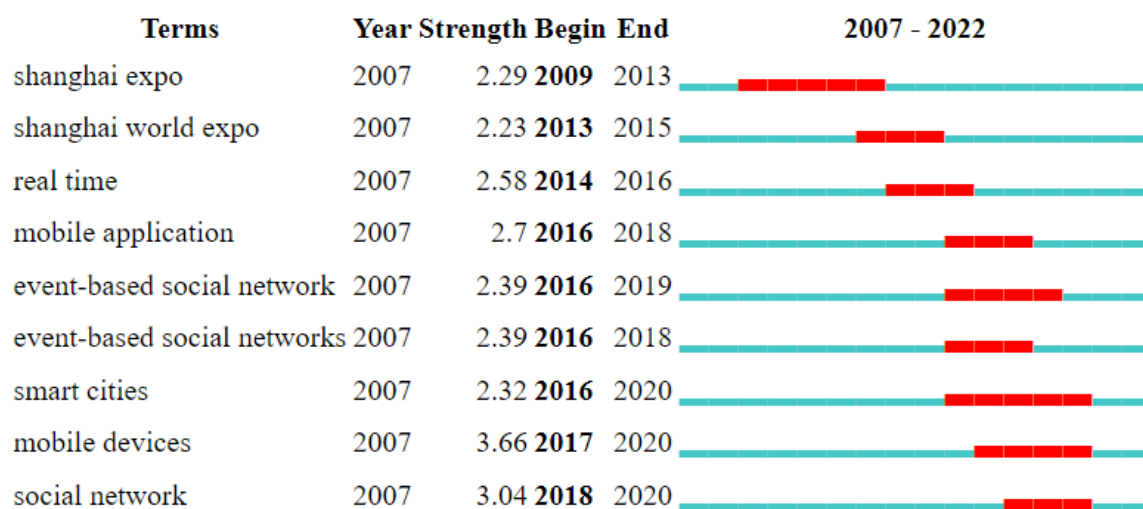


Figure 6. Top-9 terms with the strongest citation bursts

the term “mobile application” are in the list of references with the strongest citation bursts. Most authors citing the word “mobile device” which has the highest strength of burst – 3.66 explore practical importance of mobile technologies dealing with issues of crowd management (Zhou *et al.*, 2020). The article by Zhou is in top-ranked reference by citation counts.

Another research trend is event-based social networks defined by the terms “social network” and “event-based social network(s)”. EBSN is a new type of heterogeneous social network where events enroll participants and participants are arranged with personally interesting events (She *et al.*, 2016). This trend is closely connected with the mobile application research frontier because elements of smartphone technology such as context-aware mobility and multimedia sharing are combined in event-based MSNs (Ahmed *et al.*, 2014). With the increasing popularity of online EBSN platforms, scientists draw attention to one of the aspects of EBSNs – inadequacies of existing techniques that ignore minimum-participant requirement (Tong *et al.*, 2016; She *et al.*, 2016). The role of social networks in the event industry could contribute to the event-based social network trend. The term

“social network” is mainly cited in articles devoted to recommendation aspect of social networks (Liang *et al.*, 2020).

The third research trend relates to customer experience during the event and issues of attendees' acceptance of the novel digital technologies or mobile applications. Here, the authors focus on qualitative analysis of users' behavior, experience or satisfaction. For instance, the study conducted by Talantis and co-authors is devoted to investigating the factors that influence conference attendees' attitudes toward a mobile event app (Talanis *et al.*, 2020). An article by Neuhofer and co-authors explores the impact of artificial intelligence as an operant resource on event experiences (Neuhofer *et al.*, 2020).

IMPLICATIONS

This study reflects the state-of-the-art of the event industry in the context of digitalization. It provides an enumeration of the most influential journals, countries and authors contributing to the research of digital technologies in the event industry around the world. In addition, there are two important practical implications. First, it provides researchers with key developmental trends in the event industry, which assists them in more deeply understanding the evolution of research hotspots in the field during last 15 years and defining future research agenda. Second, the paper presents an overview of digital technologies used in various types of events and describes the issues and results related to the implementing digital technologies and special-purposed mobile apps. The results obtained were extremely important, as they can be used by event managers and organizers to enhance customer experience during events and get better understanding of digitalization phenomenon in the event industry.

DISCUSSIONS

Using the CiteSpace software, we analyzed the event industry in the context of digitalization to understand how digital technologies impact the event industry and reveal the most promising research topics. The emergence of such words as satisfaction, experience, impact, technology (see fig.5) in recent five years demonstrates a shift to the study of customer experience and issues of attendees' acceptance of the novel digital technologies. The influence of the internet of things, artificial intelligence or special-purposed mobile applications for events on customer experiences still needs to be explored. This fact is reinforced by the works of Sea Talantis (Talanis *et al.*, 2020) and Barbara Neuhofer (Neuhofer *et al.*, 2020) and this is in line with the results of the research performed

by K. Celuch in 2020 where the author analyzed the information and communication technologies (ICTs) used in the events (Celuch, 2021).

Countries contributing to the topic were analyzed in three dimensions. The number of research papers published in the top-10 countries varies significantly (see Table 2). The People's Republic of China has published 103 articles, while the number of published articles in Spain is 19. According to the Betweenness Centrality Index, the USA and England play an important role in connecting and collaborating with researchers in other countries. In terms of strength of citation Japan holds the first place. Most of the papers published in Japan are devoted to digital solutions for sports events and facilities as well as issues of using digital technologies for analyzing behavior of the attendees at some large-scale events (Urano *et al.*, 2019; Yamamoto *et al.*, 2018; Fukuzaki *et al.*, 2014). This is in line with the importance of issues of crowd management and security at mass events defined as one of the directions for future research. However, considering all parameters the results show a weak scientific collaboration between countries in the topic studied.

In terms of contributing authors and journals Wirz, Liu X., Getz D are on the list of the most cited authors. Articles from the Lecture Notes in Computer Science (LNCS, book series) had the highest number of citations (93), with Tourism Management and IEEE Access also listed in the top ten.

Also, the bibliometric analysis made it possible to classify all the papers in the field of digital technologies in the event industry, dividing them into clusters. The largest clusters labeled as *crowd dynamics* and *social media* emerged in recent two years. Thus, the new clusters are the largest ones at the same time (see fig.2).

Although we performed an effective bibliometric CiteSpace analysis on publications devoted to the event industry in the context of digitalization, this study has some limitations. First, the results should be interpreted in light of our sample, because the analysis was conducted within our sample which has boundaries. We collected data from all categories in the Web of Science Core Collection database, but we considered only articles and proceeding papers as opposed to all possible types of scientific publications and other databases. However, the Web of Science database is comprehensive, and fully covers over 12,000 highly acclaimed impact journals worldwide and our study did not focus on the direct count of citations or co-citations but on analyzing all available connections and networks. Thus, the results are still meaningful to understand the state-of-the-art of the event industry in the context of digitalization and the impact of digital technologies. The study was the first attempt to make an overall analysis of scientific papers published in the Web of Science Core Collection on the topic studied without excluding any categories.

Second, in this study, we focused on detecting the state-of-the art of the event industry in the context of digitalization overall. More specific topics that could be explored and analyzed remain. For example, future research could continue to examine the evolution of digital technologies used in World Expos only or the dependency of digital technologies from the event type. Thus, future studies could take a more fine-grained approach by analyzing the scientific community within the same sample not only by countries, authors and journals but research institutions as well and to reveal how popular research topics are distributed and varied by countries and institutions. The search procedure is transparent, and the results can be reproduced in other search fields using the same approach.

CONCLUSIONS

In this paper we presented a bibliometric review of research in the field of digital technology and digitalization in the event industry, revealed hotspots, provided the most-cited scientific articles and the most influential authors which define trends and future research agenda. Co-citation analysis indicated that issues of crowd management and tracking human mobility during mass events are important for the event industry and that technologies such as the internet of things, special-purpose mobile applications and systems make it easier for event organizer to handle the issues. The findings demonstrated a weak scientific collaboration between countries in the topic studied and shift of research hotspots to study of satisfaction, motivation and behavioral patterns of events attendees. Developmental trends in the field of digitalization in the event industry are closely associated with mobile technologies. The research of any aspect of event-based mobile social networks, usage of mobile devices or mobile applications before, during and after events are the most promising frontiers. This is in line with the trend of the event industry as outlined by experts who speak about the popularity of hybrid events in 2022. While digital technologies in the event industry are widely believed to have massive potential, the concrete influence of the internet of things, artificial intelligence or special-purposed mobile applications for events on customer experiences still needs to be explored. Based on this analysis, three directions for future research were revealed including technological aspects of online event-based social networks, issues of crowd management and security at mass events and issues of attendees' acceptance of novel digital technologies.

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LOVE, LEADERSHIP AND UNCERTAINTY AVOIDANCE (UAI) IN LUXEMBOURG

Schinzel, Ursula

UNICAF University, Larnaca, Cyprus

ABSTRACT

The main research question is: What is the link between 'responsible leadership' and 'online dating platforms'? A secondary associated question is: How to avoid the uncertainty that exists in new encounters in business and/or on online dating platforms? This is a combination of several studies. It links research about love, lies, and trust propensity on online dating platforms (Schinzel, 2020; 2021a; 2021b; 2022) to research about responsible leadership (Schinzel, 2018; 2019; 2020), Maccoby (2011) and uncertainty avoidance (Hofstede, Hofstede, and Minkov, 2010). In these previous studies, a total of 235 interviews about online dating platforms and a total of 197 interviews about responsible leadership were performed. For the purpose of this new study, 15 new semi-structured interviews were conducted with the aim to double check validity. In any new encounter, be it in a new business relation or on online dating platforms, uncertainty avoidance is experienced. During the coronavirus pandemic, digitalization and in general the use of ICT - information communication technology (Floridi, 2020); as well as the dangers behind them (Harari, 2020), have seen much growth. Much needed change and innovation (Maccoby, 2012) beyond the current digitalization is discussed.

Keywords: Love, online dating platforms, responsible leadership, Hofstede's cultural dimension uncertainty avoidance, digitalisation, ICT

INTRODUCTION

The purpose of this study is to link responsible leadership, online dating platforms and uncertainty avoidance.

The research question is: What is the link between 'responsible leadership' and 'online dating platforms'? A secondary associated question is: How can one avoid the uncertainty that exists in new encounters in business and/or on online dating platforms? **Additional research questions are:** With different leadership styles, what kind of online dating platform do we need to increase safety to avoid the uncertainty in new encounters? With digitalisation being the big winner of the 2020/2021 coronavirus pandemic (Schinzel, 2021), what are crucial parameters for a safer future (Harari, 2020)? What are the dangers behind this (Harari, 2020; Floridi, 2014)? What is the outlook for the future?

This paper contributes to knowledge by being timely and searches for and examines new ways of digitalization and remote collaboration, friending, networking and of course romantic dating. In times of a pandemic, digitalization was the big winner, and there are still unexplored ways of collaboration and networking; unexplored, unreflected, un-lived ways of knowing new people, and of making new encounters, despite, or because of, social distancing methods in place.

Geert Hofstede (n.d.) researches among other cultural dimensions (Individualism-Collectivism, Masculinity-Femininity, Power Distance), 'Uncertainty Avoidance'. Because of the overall tendency towards globalization, internationalization and international trade, Uncertainty Avoidance is a less popular cultural dimension as it prevents ambiguity and uncertainty in international business transactions, and favours domestic transactions.

In the study from 2019/2020 the author developed a theory of need for change and innovation. Risk-taking is linked to cultural and institutional antecedents (Shostya and Banai, 2017). In this paper, the author combines three existing theories, namely online dating platforms (Markowitz and Hancock (2018) and Schinzel (2020, 2021a, 2021b, 2022), culture and Uncertainty Avoidance (Hofstede, Hofstede, & Minkov, 2010) and responsible leadership (Maccoby, 2011). It is secondarily linked to negotiation tactics as examined by Stefanidis, Banai, Schinzel (2021) and Stefanidis, Banai, Shetach, Schinzel, Shakirova, Goelzner, Erkua, Oezbek (2016).

This research is significant and strongly needed as a reinforcement of the claim for change and innovation in the field of responsible leadership theories.

After this introduction, the paper will describe Luxembourg's linguistic and cultural peculiarities. This is followed by third section giving a brief literature review on responsible leadership. The fourth section is on Hofstede's Uncertainty Avoidance cultural dimension and the fifth section is on online dating platforms. Following this, are the results section, and conclusions, discussion, implications, research limitations and opportunities for further research. References will conclude this paper.

LUXEMBOURG

This study is focused on Luxembourg because it provides the author with a stable cultural environment where other sub-cultures (from France, Germany, Belgium, Portugal, Italy, Spain...) might vary in their behaviour.

Luxembourg is a parliamentary democracy and a constitutional monarchy and is the only remaining Grand Duchy in the world. Luxembourg is one of the smallest countries in Europe with a total size of 2,586 km². It is 82 km long and 57 km wide and has borders with Germany (138 km), with France (73 km), and with Belgium (148 km).

As a result of high employment needs, its size and its proximity to large neighbouring pools of labour,

cross-borderers (workers who live in the adjacent countries but who commute daily to Luxembourg) are a distinguishing characteristic of Luxembourg's employment situation.

Luxembourgish (Lëtzebuergesch) being the national language, there are three official administrative languages, French, German, Luxembourgish, a real issue for many people.

RESPONSIBLE LEADERSHIP

Out of the different leadership styles (Northouse, 2012) of autocratic leadership, laissez-faire leadership, strategic leadership, responsible leadership, transformational leadership, transactional leadership, and many more, the author concentrates in this study on 'responsible leadership'. Useful definitions of leadership include: "There is only one irrefutable definition of a leader: someone people follow. Therefore, leadership is a relationship between the leader and the led. Unlike management, the leadership relationship cannot be delegated or automated" (Maccoby, 2011). The Financial Times offers a useful definition of responsible leadership (The (Financial Times Lexicon.ft.com., n.d.). In general, "Responsible Leadership spans three areas: first the economic, second the social/human, and third the ecological area." (Financial Times, n.d.). Responsible leadership is defined as being "about making business decisions that, next to the interests of the shareholders, also takes into account all the other stakeholders such as workers, clients, suppliers, the environment, the community and future generations" (The Financial Times, n.d.). Responsible leaders build sustainable relationships with stakeholders, to achieve shared objectives, for the common good (Pless, 2007).

HOFSTEDE'S CULTURAL DIMENSION OF 'UNCERTAINTY AVOIDANCE'

Geert Hofstede defines his cultural dimension 'Uncertainty Avoidance' (UAI) as "the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. The fundamental issue here is how a society deals with the fact that the future can never be known: should we try to control the future or just let it happen? Countries exhibiting strong UAI maintain rigid codes of belief and behaviour, and are intolerant of unorthodox behaviour and ideas. Weak UAI societies maintain a more relaxed attitude in which practice counts more than principles." (Hofstede, 2021). In the years before the coronavirus pandemic started, in December 2019 in Wuhan, China, for some countries 'Uncertainty Avoidance was seen as a taboo attitude (Schinzel, 2019) which then pivoted with the arrival of the first cases of coronavirus in early 2020.

ONLINE DATING PLATFORMS

Impression Management, Truth Management, and False Consensus Effect

On online dating platforms, and not only there, people might lie first about items of **'impression management'** (Markowitz and Hancock, 2018; Ellison et al, 2012, 2006), meaning self-presentation, such as the physical attributes of age, height, weight, as well as showing photos 10 and more years younger, and 'personality traits' (Lim, 2021). Secondly, they lie about items of **'availability management'**. These include details such as marital and/or relationship status, availability for meeting in person or not, physical distance between the parties, professional occupation, and personal interests such as hobbies, occupation of free time, sexual preferences, alcohol consumption and smoking. Thirdly, they lie about: **'truth management'**: is the person telling the truth, yes or no. Deception is originated by lies, told by the partner, knowing that it is difficult to collect enough information about a person to be able to make the right judgement. This is the Truth-Default Theory of Levine (2014). Fourthly, there is the **'false consensus effect'** (Epley, 2015) which suggests that daters decide it is acceptable to lie because they surmise that the other person also lies.

In recent months, 'uncertainty avoidance', or better 'uncertainty on dating platforms' (Corriero, and Tong, 2016) has become increasingly important, nowadays it is more often called: 'safety' instead.

Safety

To increase safety, dating sites such as New RealMe (13 May 2021) ask daters i.e. to share information to publish it and share it with all other daters: identities, background information, criminal records, court records, sex offender status, marital status, lawsuits, and personal reviews.

Surveillance

Regarding the demand for safety, especially in times of coronavirus, there is obviously the possibility of control and tracing of everybody's movements on mobile tracing applications. A significant change can be noted in the literature BEFORE and DURING/AFTER the coronavirus pandemic in all aspects of life, more specifically in the digital world. Mahbubani (2018) wrote BEFORE the outbreak of the 2019/2020/2021 pandemic: "Has the West lost it?" Both, Yuval Noah Harari (2011, 2015, 2018, 2020) and Luciano Floridi (2011, 2014, 2019, 2020) wrote their publications BEFORE and DURING/AFTER the coronavirus pandemic in 2020/2021. In his 2014 book Luciano Floridi asks about ICT – Information Communication Technology: "What's next in ICT and what are the risks/opportunities/problems? Could ICT solve social, environmental and other problems or on the contrary, will they exacerbate them?" (p. vii).

PROPOSITION

The author states a proposition: due to the pandemic, new ways of collaboration and working have been developed, allowing for new types of encounters, online or in person, including on online dating

platforms. These new ways have made the use of such platforms more acceptable even in the working environment. Responsible leadership DURING/AFTER the coronavirus pandemic includes digitalization and, in this regard, acceptance of use of online dating platforms, where daters have changed their dating habits in this new digital reality.

METHOD

In 2022, the author combined several previous studies into one, including studies from 2020 and 2021 about 'Love and lies on online dating platforms' combining them with previous studies from 2015, 2016, 2017a, 2017b, 2018, 2019 on 'Responsible Leadership and Uncertainty Avoidance. To double-check the validity of the proposition, 15 semi-structured interviews were performed additionally.

Research questions

The main research question is: What is the link between 'responsible leadership' and 'online dating platforms'? A secondary associated question is: How to avoid the uncertainty that exists in new encounters in business and/or on online dating platforms?

Additional research questions

With different leadership styles, what kind of online dating platform do we need to increase safety to avoid the uncertainty in new encounters? With digitalisation being the big winner of the 2020/2021 coronavirus pandemic (Schinzel, 2021), what are crucial parameters for a safer future (Harari, 2020)? What are the dangers behind this (Harari, 2020; Floridi, 2014)? What is the outlook for the future?

In the following the methods employed in the previous studies are described:

Method for the studies from 2020 and 2021: 'Love and lies on online dating platforms'

A total of 235 people were contacted in writing, by telephone or in person via an online dating platform. Out of the 235 participants, 56 were contacted by phone and meetings in person were organized with 12 respondents once, 5 twice, 2 three times and 4 several times. The research questions were: Did the coronavirus situation change dating habits? Can you trust people on online dating platforms? Can one really find love there, or is it only lies? Followed by an in-depth literature review on 'Uncertainty Avoidance and coronavirus' and "How to avoid the uncertainty in new encounters on online dating platforms, and not only there?" Replies, in English, German, French, Dutch, Italian, Luxembourgish, and Spanish, were translated into English and back translated to check for consistency.

Method for the studies from 2015 to 2019: Responsible Leadership and Uncertainty Avoidance

In 2015, 51 respondents were asked in semi-structured interviews: What is “responsible leadership” in Luxembourg? In the 2018 qualitative study, 40 respondents were asked: A) What is the link between ‘responsible leadership’ and ‘uncertainty avoidance’ in Luxembourg? B) Does the high Uncertainty Avoidance affect international cooperation because of the tendency for high-uncertainty avoidance societies to avoid the ambiguity and uncertainty that exist more in international business transactions than in domestic transactions? D) Is Uncertainty Avoidance the new taboo dimension? The 2019 qualitative study had 12 respondents and secondary data from the national press.

There was also an initial quantitative study with 134 respondents in 2011. The author replicated Geert Hofstede’s cultural dimensions study in Luxembourg in 2011 as her doctoral thesis and compared the findings with Hofstede’s estimates (Schinzel, 2011; 2014a). Luxembourg’s specific cultural environment is characterized by low Power Distance (PDI=29), high Uncertainty Avoidance (UAI=95), low Individualism / high Collectivism (IDV=34) (COL=66), medium Masculinity (MAS=54), high Long-Term Orientation (LTO=65), medium Indulgence versus Restraint (IVR=55), and low Monumentalism (MON=24).

RESULTS

In the following there are three different sections with the results from the three different studies. The results from the 2022 study are set out first, then these are followed by the results from the 2020/2021 study about online dating platforms, and thirdly the results from the 2015-2018-2019 studies about responsible leadership and uncertainty avoidance are detailed.

Results from the 2022 study

The question “What is the link between ‘responsible leadership’ and ‘online dating platforms’” was answered in the following way:

Out of 15 respondents, 12 mainly confirmed the author’s proposition. They stated that with new methods of working, namely working remotely, from home or from elsewhere, the employer can no longer exactly control what employees do during their working hours, and allow for the use of social media, including online dating platforms. These platforms then enable new methods of new encounters, not only romantic relationships, but also friending, networking and recruiting. However the main concern is the security of these social media and platforms, requiring firewalls, protection, the prevention of perversity and crime. There are unknown possibilities of new encounters that still remain to be explored.

One respondent however said, there is no link between responsible leadership and online dating platforms.

The content of the replies depended mainly on the age and also gender of the respondents. The younger the respondents get, the more they were open about new forms of working, including 'online dating platforms' and requiring the 'responsible leader' to include them in the work environment, making them 'acceptable'. The future will show us how these new methods of working will evolve.

Below are some quotes from 6 respondents to the 2022 study.

Respondent 1:

"The Coronavirus pandemic has changed the behavior of many people. I think that 'Leadership' and 'Online Dating' is linked nowadays, during and after the pandemic. While, before the outbreak of the pandemic, in the office, it was mainly forbidden to use private facebook or private other social media. Now everything has changed. Everything is linked, intertwined, we work from home, where we use all of our social media channels in parallel. There is no boss to forbid our Facebook or LinkedIn or any other social media attendance, so that 'Online Dating Platforms' see a boom, because we use them during our official 'office' times and not only do we date online during working hours, but we use these online dating platforms not only for romantic dating, but also for friending and for networking. It helps us, being less alone. This has changed during the pandemic. Nobody wants to go back to the 'old normal', people want to remain in the 'new normal', continuing to have online contacts all day long, during work hours. The wise leader is aware of these changes and doesn't forbid these contacts during working hours. People do many things in parallel on their computers, working mainly on several screens in parallel, having several windows open, and chatting in parallel with several people on several channels, all from their kitchen table, or office, or wherever they are. The responsible leader allows these new behaviors and doesn't forbid them. The new generation of young people will be multitasking, they will be 'all-online', using all of their social media channels in parallel with work / school / conferences / etc. The young people will mix all of these media to use them for their advantages, for friending, networking, romantic relations, business relations, there will be no more limits or restrictions in their use."

Respondent 2:

"Every story is different. Every encounter is different. I have been on this dating platform for a while and have met several women. Every encounter was really different."

Respondent 3:

"Nowadays people are digitally connected more than ever. Either for business or private reasons, the usage of dating digital platforms became the normality: every day the first action is to turn on your laptop and meet your colleagues, have meetings; or simply meet your friends, loved ones who are living far away. About love, having a remote relationship with the partner is common. Video calls are started to share every moment of the day: while cooking, eating (why, not have a virtual

lunch/dinner/coffee break together?). Psychologists are also telling us that virtual sex is today a normal legitimized practice.

But, despite humanity's virtual connection increase, people everywhere are experiencing loneliness and uncertainty: they often feel isolated. Social relationships can never be substituted by full digitalization. I think that the feeling of uncertainty could be overcome via high attention and listening while the speaker is talking. Following simple rules either during business or love meetings: put others' devices far away; use the eyes/look to communicate an emotion/feeling; ask the right question and be always curious, open minded creating space for the others to wholeheartedly express themselves."

Respondent 4:

In the recent months, there have been 4.5 million Americans who quit their jobs, as many as never before. Luxembourg is still waiting for the big wave of job changes. You can read this in the *Luxemburger Wort*. Why is this so?

For several reasons. They are working remotely – from work, and realize several things. They don't like their jobs, and it is easy to search for a new one, online. So they quit and find a new one. Or they are close to retirement and prefer to benefit from the free time. Or they have a partner who earns enough money for two. Or they just are fed up with the job. It is important in life, to find something that makes you happy.

The next and last subject I want to talk about is the web shopping in Luxembourg, where Cactus has a leading role while designing new concepts for the future, not only to avoid the spread of coronavirus, but also to facilitate shopping while working, remotely or in the office with big refrigerated storage places for overnight orders.

Respondent 5:

"Even though I haven't used online dating platforms for years, my opinion referring mainly to my experience with the new online working habits, and meeting platforms such as ZOOM is: Using new technologies and online platforms to communicate becomes a new standard in our day to day lives: at work, to enable and expand work from home; in our private life, to communicate safely with our relatives and keep a social link, whatever the context. All this was made possible with the growing security to join the platforms but also to secure the data. Habits evolved, nevertheless it seems important to me not to forget that behind an avatar or a profile, there is a real person. Why? Because it is more easy to create a fake or our "ideal profile of ourselves" in the virtual world. Let's keep reality alive!

If I make a link between the role of a "responsible leader" and "online platforms", I would talk about:

- The need to create or maintain a “community feeling”: team building exercise, regular meeting, information sharing (not only forwarding a mail)
- The definition of rules related to the use of online platform or meeting tool: video, document sharing, size of attachments... to limit the “ecological impact”
- Economically, I would highlight the management of building, infrastructure costs: building location, equipment (laptop, headset)... but also consideration of an indemnity for people who work from home (internet connection, desk, chair, additional screen...).

Respondent 6:

I believe that each person needs to be responsible in both. Not all new encounters in business results in deals signed and also not all new encounters in online dating platforms would result in a wedding. My advice to that is that a period of romance should exist in both, when you should conduct a due diligence process in both. I do believe that this question will remain essentially human above all Artificial Intelligence that can manipulate our choices, in the end the ability to avoid uncertainty in this kind of platform is a kind of manipulation.

Despite the way that human beings get in touch or have sex continues to evolve for apparently colder solutions, Humans will always need to feel the kind of emotion growing inside to go ahead. Technically speaking Artificial Intelligence can run a set of tests in order to check if the profile belongs to someone real and the information is accurate, but after that it will always depend on free will of each human if they go ahead or not.

Summary of the results from the 2020 / 2021 study

The research question was: What do people lie about most on online dating platforms?

In general, those who lied would lie about the following points (Schinzel, 2021a,b):

- Their gender (Women who pretend to be men and vice versa),
- Their profile photos,
- Their name (Showing one name on the platform and using another name upon meeting),
- Their age (Difficult to check without access to identity documents),
- Their salary (As above, verification of this is problematic as one cannot go and talk to HR at their place of work),
- Their ‘availability’ (This means their marital status, not if they are free to meet but if they are single or not, or still in an emotional relationship or not),
- Alcohol consumption,
- Smoking,

- Other characteristics (Such as their true motive for being there, just looking for a free 'hotel', a free overnight stay, for avoiding traffic jams as cross-borderers. Or about animals they have or do not have, about preferences for spending vacation or free time),
- Sex (This means lying about the importance of physical, sexual activity in a relationship and sexual preferences),
- Abuse (These traumatising events in the past often represent a hindrance for future new relationships. Although, in the first place, they would NOT talk about having been abused in the past at all, only later mention it in a second or third encounter),
- Deaths (Like abuse, fatalities represent a traumatising event in the past with often negative impacts on future relationships. If a loving partner has recently passed away, it is difficult to replace him or her entirely) The loss of one of their children, The loss of their spouse/partner, An injury suffered by one of their children or their spouse/partner, A difficult divorce process from a former spouse, Sexual abuse by a family member.

Summary of results from the 2015 interviews: "What is responsible leadership in Luxembourg?"

Respondents named the following attributes of responsible leadership: the three major categories, being ecological, social and human, and economic responsibility; followed by long-term and short-term orientation, personal capabilities, getting results, interpersonal skills, trust, ethical behaviour, security, respect, fairness, reliability, doing not talking, commitment, compassion, keeping your promises, and finally corporate social responsibility.

Respondents named the following attributes as typical for Luxembourg: multilingual, multicultural, cross-cultural management, cross-border workers, diversity, tolerance of what is different, integration instead of separation, rich and highest GDP, high salaries, low taxes, banks and financial institutions, European institutions, money laundering, banking secrecy (now finished), good working conditions in general, good social and healthcare system, a country where forecasts match reality, difference in legislation for the four different samples of people (Lux.Nat., Lux.Foreigners, cross-borderers, World), limitations due to small size and limited resources, trilingual public education system, a great place to live and/or work, sports clubs, associations, teams, expensive housing prices, quick and easy contact, nepotism given that everybody knows everybody and everything, too many irresponsible leaders, beautiful countryside and tourism, social events like the main annual fair Schueberfouer (Schinzel, 2017b, p.22).

The result show that Lux.Nats. are strong Uncertainty Avoidance scorers (UAI=95). Lux.Nats. are afraid of any uncertainty. For Lux.Nats. everything must be planned, organised, regulated, restricted and foreseen. Nothing has been left to chance. Lux.Nats. hate surprises. They prefer that every day is the same and every year brings the same events with always the same people at the same place and the

same procedure. They distinguish themselves from their mighty neighbours Germany/France/Belgium, and they have created their own language (Briley, 2005; Hong et al., 2000), habits (Spizzo, 1995), peculiarities (IPSE, 2010; Haag, 2011), that they hold to strongly as if they were their identity savers (Hermans & Kempen, 1998) or their rescue plan.

A call for change and innovation was heard from the respondents of this study. Despite this call for change, the high Uncertainty Avoidance Index seems to prevent any endeavour for much-needed change. This change and innovation are needed, according to the critical respondents, to implement responsibility and sustainability, which are lacking. Toxic or irresponsible leaders being too often the reality, the authenticity of the leader is not always positive and, on the contrary, sometimes it is negative. As a respondent from the Lux.Nat. category said: "There are too many irresponsible leaders in Luxembourg." There is a call for change, to change irresponsible leaders into responsible leaders, to make them learn responsibility, sustainability, and ethics. The question is: how?

GENERAL DISCUSSION

What is the link between 'responsible leadership', 'online dating platforms' and 'uncertainty avoidance'? While working remotely, from home or anywhere else, new ways of working are experienced, generating innovation, change, and unthought of new ways for collaboration. Every new encounter, on online dating platforms (Toma, 2015) or in presence, comprises a certain degree of uncertainty. 'Uncertainty avoidance', one of Geert Hofstede's (2021) cultural dimensions, shows how people feel uncomfortable with uncertainty and ambiguity. The 2020-2021 coronavirus pandemic stressed people's levels of 'uncertainty avoidance' to a maximum. In an extremely short lapse of time digitalization has gained ground most if not all of our areas of life. The obvious advantage was the so called 'social distancing' allowing the halt of the spread of the virus. New technologies, arose, 'online' was the magic word. Working, meetings and dating online, instead of in presence. This is how this research evolved, out of necessity. Advantages and disadvantages of these online activities were discussed BEFORE and DURING/AFTER the pandemic, including 'Artificial Intelligence', the 'Logic of Information' and Information and Communication Technologies in general (Floridi, 2011, 2014, 2019, 2020), risks and downsides of the complete traceability and surveillance of the Homo Sapiens (Harari, 2011, 2015, 2018, 2020).

Online dating platforms have experienced an increase in use during coronavirus times, due to social distancing measures during the pandemic. Dating in person decreased, online dating increased due to the social distancing rules in place because of the 2020/2021 coronavirus pandemic. Therefore, online dating platforms were increasingly used not only for romantic relationships, but also for friendships, for networking, for working, and much more (BBC, 2021).

Here is a final question for discussion: What kind of dating / friendship / networking app do we need for the future / beyond times of coronavirus, as this will not be the last crisis?

CONCLUSIONS, LIMITATIONS AND FURTHER RESEARCH

In conclusion, it could be said that not everybody wants to return to the times before the pandemic where daters met in person in bars or restaurants. The advantages of digital / online meetings via online platforms of any kind like Blackboard, Moodle, or Zoom, Microsoft Teams, Skype and/or others – time saving and energy saving – seem to outdo the disadvantages – surveillance, traceability, uncertainty, ambiguity and unknown terrain.

Being a single researcher involves a number of limitations in contacts, interviews, emails and messages, meetings in person. To allow for more sophisticated statistical use, more data would need to be collected, in the form of questionnaires.

Future research could look into “talent management” combined with ‘online dating platforms’, ‘responsible leadership’ and ‘Uncertainty Avoidance’. ‘Online dating platforms’ being not only used for romantic dating, but also for friending and networking, they could be key for innovation and change in the search for new talent in Luxembourg, combining non-uncertainty avoidance. Digitalization and allowing the use of social media during working hours is innovative, opening up ways to help Luxembourg in its search for talent.

The results for the current research depend on respondent’s age, gender, education level and social/hierarchical status. From Hofstede’s cultural dimensions Individualism/Collectivism (Schwartz, 1990) and Triandis (1995) , Power Distance, Masculinity/Femininity (Kanayama, and Cooper-Chen, 2005), Monumentalism, Longterm versus Shortterm Orientation and Uncertainty Avoidance dimension, the latter one has been chosen for this research. Further research could look into the others. Further research could also look at negotiation with deception due to intercultural misunderstandings (Triandis, 2002) and Triandis, Carnevale, Gelfand, Robert, Wasti, Probst, Schmitz, (2001).

Despite the high Uncertainty Avoidance Index, Luxembourg takes both small and big steps towards a sustainable Europe (Sustainability IMS Luxembourg MAG, at: <https://imslux.lu/>). To close this paper by citing <https://imslux.lu/>: “Responsibility to move beyond the status quo, shaping up new ways of thinking, dream of the possibilities, sustainability (IMS, 2022) as a driver for innovation. Bringing solutions for sustainable prosperity. Generate positive Impact. Business with a purpose.” Opening up for new ideas and new ways of working, working from home, including ‘online dating platforms’ and any other networking means, as innovative way of collaboration, during and after a pandemic. By linking globalization, responsible leadership and CSR, with online dating platforms, and uncertainty avoidance, this research is timely and innovative, asking: “What’s next?” Certainly, the new generation

of young people will be multitasking, they will be 'all-online', using all of their social media channels in parallel with work / school / conferences / etc. The young generation will mix all of these media to use them for their advantages, for friending, networking, romantic relations, business relations, there will be no longer limits or restrictions in their use.

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RESPONSIBLE LEADERSHIP AND AIRBNB

Schinzel, Ursula

UNICAF University, Larnaca, Cyprus

ABSTRACT

This article contributes to the discussion on responsible leadership theory in combination with Airbnb. The method used was a mix of literature review and qualitative study, where 10 semi-structured interviews were conducted with 7 hosts and 3 guests from winter 2021 until summer 2022 to confirm the findings from the literature. It includes a view of their attitudes toward Hofstede's (2010) cultural dimension of Uncertainty Avoidance (UAI), meaning their levels of risk-taking. Irresponsible leadership was found to be related to low-level scores on Uncertainty Avoidance, which, in turn, tends to impair change and innovation, the critically needed processes in a globalized world. Airbnb has been in the centre of research interest since its creation in 2007 and notably because of its success. What makes this success? This is the research question for this paper.

Keywords: Responsible leadership, Airbnb, Hofstede's cultural dimension Uncertainty Avoidance, change, innovation, globalization

1. INTRODUCTION

This study is the combination of research about responsible leadership and Airbnb. The aim of the present study is to determine what is the success of Airbnb in terms of responsible leadership and uncertainty avoidance? This is a mix of literature review and qualitative study, where 10 semi-structured interviews were conducted with 7 hosts and 3 guests from winter 2021 until summer 2022 to confirm the findings from the literature. The research questions were:

- A) What is the success of Airbnb in terms of 'Responsible Leadership' and 'Uncertainty Avoidance'?
- B) What is special with Airbnb?
- C) Please give some examples. Tell us your stories!

10 semi-structured interviews were performed with 7 hosts and 3 guests from winter 2021 until summer 2022. Convenience sampling was used. With the current research the author contributes to the existing knowledge by developing the theory of Airbnb. The author combines three existing theories, namely on responsible leadership (Maccoby, 2011), on culture (Hofstede, Hofstede &

Minkov 2010), and on Airbnb (Voegtlin & Patzer, 2020). This research is significant and strongly needed as a reinforcement of research on Airbnb and responsible leadership theories.

After this introduction, the paper will provide a brief literature review on responsible leadership, followed by a section set out information on Hofstede's cultural dimension 'Uncertainty Avoidance' and Airbnb respectively, at the end of which the author offers a proposition. The next section will describe the applied method – a review of the extant literature and 10 semi-structured interviews from winter 2021 until summer 2022. The following section will present the results, with a section covering results from respondents, reprinting parts of the interviews. The last sections contain the conclusions, discussion, and implication, as well as research limitations and further research opportunities. References and appendix will conclude this paper.

2. RESPONSIBLE LEADERSHIP

Responsible Leadership has been in the centre of attention over the last years (Doh & Stumpf, 2005; Maak & Pless, 2006; Maccoby, 2007a and 2007b; Miska & Mendenhall, 2018; Patzer et al, 2018; Pless, Maak, & Waldman, 2012; Schinzel (2022); Schinzel (2021); Schinzel (2017b); Stahl & Sully de Luque, 2014; Voegtlin et al., 2012; Waldman & Galvin, 2008).

"In times of great cultural change, such as the present, people need leaders to take them to a positive future" (Maccoby, 2007a, p. 1); and: "There is only one irrefutable definition of a leader, and that is someone people follow". Three questions arise from this definition. Why do people follow somebody? How do people follow? Who are the leaders we need? (Maccoby, 2011). Maccoby (2007a) states, there are three types of leaders: the strategic leader, the operational leader and the network/bridge-building leader. However, they all need to understand that not everybody is like them, on the contrary, that the key to success is understanding the diversity of people. Understanding people, and combining head and heart are central to Maccoby's idea of responsible leadership (pp. 14, 15), as well as education, especially education of our children (p. 154). The importance of education is expressed in his introductory sentence: "Our prosperity and well-being depend on our ability to learn" (p. 133), and the question is asked what can schools do? (p. 135). Some educational mottos are: "Work hard, be nice", "Team always beats individual", "Never give up", "I believe that success comes from doing the best I can do, not from winning" (p. 137). He describes the principles of the KIPP (Knowledge is Power Program): firstly talented leadership, secondly more time for sports, games, music, dancing, and literature, thirdly quality of instruction, and fourthly shared values. Emotional Intelligence is an integral part of the ability to understand people, to understand what motivates them and how they think (p. 178). In 2015 Maccoby published his research about Strategic Intelligence, combining emotions and strategy with plan, organization and intelligence.

2,500 years ago, Lao Tzu (Chan, 2015) wrote about the ideal leader stating that the ideal leader is the one who helps people so that finally they no longer need him. Less ideal is the leader people love and admire, followed by the leader they fear, with the least ideal being the leader who pushes people around. People will not trust a leader who does not trust them. The best leaders say little, and people say 'we did it ourselves' (p. 176).

According to Szekely & Knirsch (2005, pp. 628, 629) responsible leaders build sustainable relationships with all of their stakeholders, with the aim to achieve shared objectives. "Sustainability is about building a society in which a proper balance is created between economic, social and ecological aims". This comprises the different leadership streams: authentic, ethical, servant and transformational.

Voegtlin, Patzer and Scherer (2012, p. 6) state, "Leaders (and followers alike) are increasingly confronted with heterogeneous cultural contexts, devoid of shared moral orientations or legal frameworks. As moral or ethical conflicts arise in the process of economic activities, business leaders are left without any orientation in regard to morally adequate action. In this situation the idea of value maximization often becomes the sole surrogate for moral principles. This problem is aggravated by the need to transcend the traditional, internally bound focus of leadership theory." (Maak, 2007; Maak and Pless, 2006; Pless, 2007). In a globalized world we need a special kind of leadership, with a special kind of responsibility (Patzer, 2009). What is right or wrong in this globalized world, how to be a responsible leader? What are the different approaches? (Pless, Maak & Waldman, 2012).

Edgar Schein's corporate culture survival guide from 2009 is becoming again important, as well as his book on organizational culture and leadership (2010) together with Hofstede's work on cultural dimensions (2011). It is about company ethics, innovation, responsible leadership, sustainability, change, future and innovation (Voegtlin & Scherer, 2019 and 2017). In an increasingly globalized world, corporate responsibility and corporate social responsibility for the responsible leader come to more and more attention (Waddock, 2008; Waldman & Galvin, 2008), Waldman & Siegel, 2008).

Table 1 Summary of Responsible Leadership (Schinzel, 2021)

What is Responsible Leadership for you?	
1)	Maccoby (2007), 3 types of leaders:
1)	The strategic leader
2)	The operational leader
3)	And the network/bridge-building leader
2)	The importance of education: KIPP (Knowledge is Power Program)
3)	Emotional intelligence

4) Lao Tzu (2,500 years ago) (Chan, 2015)

- The ideal leader is the one who helps people so that finally they no longer need him
- Below this, is the leader people love and admire
- Next is the leader who pushes people around
- Then there is the leader people fear
- Trust should be reciprocal.

5) Different leadership styles

- Transformational leadership (the motivator)
- Transactional leadership (results oriented, rewards)
- Autocratic leadership
- Laissez-faire leadership
- Democratic leadership

3. GEERT HOFSTEDE'S CULTURAL DIMENSIONS

The author replicated Geert Hofstede's cultural dimensions study in Luxembourg in 2011 as her doctoral thesis and compared the findings with Hofstede's estimates. Luxembourg's specific cultural environment is characterized by low Power Distance (PDI=29), high Uncertainty Avoidance (UAI=95), low Individualism = high Collectivism (IDV=34) (COL=66), medium Masculinity (MAS=54), high Long-Term Orientation (LTO=65), medium Indulgence versus Restraint (IVR=55), and low Monumentalism (MON=24).

Table 2 (Schinzel, 2017a) shows Hofstede's (2001) and Hofstede et al.'s (2010) cultural dimensions of Lux.Nat. (Luxembourgers with Luxembourgish Nationality) and Lux.All. (all residents in Luxembourg), Hofstede's estimates for Luxembourg, his data for France, Germany, the UK, Belgium FR, Belgium NL, Italy, the Netherlands, China, the USA and Japan (on a scale from 1-100, 1 being the lowest and 100 the highest score), where the cultural differences become clear.

Table 2 Cultural Comparisons (Schinzel, 2017a)

	The author's Lux.Nat.	The author's Lux.All.	Hofstede's estimates on Luxbg	Hofstede's France	Hofstede's Germany	UK	Belgium FR	Belgium NL	Italy	NL	China	USA	Japan
PDI	29	36	40	68	35	35	68	61	50	38	80	40	54
UAI	95	97	70	86	65	35	93	97	75	53	30	46	92
IDV	34	51.5	60	71	67	89	71	78	76	80	20	91	46
MAS	54	47	50	43	66	66	60	43	70	14	66	62	95
LTO	65	69	64	63	83	51	82	82	61	67	87	26	88
IVR	55	53.5	56	48	40	69	57	57	30	68	24	68	42
MON	24	10	-	16.5	9.9	35.4	-	-	35.2	11.9	0	57.2	4.0

4. UNCERTAINTY AVOIDANCE

Hofstede (2010) defines Uncertainty Avoidance as “the extent to which the members of institutions and organizations within a society feel threatened by uncertain, unknown, ambiguous or unstructured situations”. Earlier (2001, p. 148), he provides the following definition, “Uncertainty-avoiding cultures shun ambiguous situations. People in such cultures look for structure in their organizations, institutions and relationships, which makes events clearly interpretable and predictable.” Stability, peace and freedom are key in Luxembourg. Luxembourg’s motto is “Mir wëlle bleiwe wat mir sinn” – “We want to remain what we are”. If one does not understand the full extent of this motto, it is difficult to integrate into Luxembourg’s culture. Economic, social and political stability are key and allow for security and life predictability in the long term.

Venaik and Brewer (2010), in their table 1 of “A review of the Uncertainty Avoidance (UA) construct in international business”, enumerate the key results from the many studies in the field of UA and their effect on international joint ventures. This current research does not want to enter into competition with existing research but to add to the existing knowledge, as neither Hofstede (2001) nor the GLOBE (House et al., 2004) examine Luxembourg. This is the author’s contribution to knowledge.

The questions Geert Hofstede (2001, p. 148) used to measure Uncertainty Avoidance were:

- “How often do you feel nervous or tense at work? (1. Always....5. never)
- How long do you think you will continue working for this company? (1. Always....5. never)
- Company rules should not be broken – even when the employee thinks it is in the company’s best interests. (1. Strongly agree....5. Strongly disagree).
- One can be a good manager without having a precise answer to every question that a subordinate may raise about his or her work (1. Strongly agree.... 5. Strongly disagree).
- Competition between employees usually does more harm than good. (1. Strongly agree... 5. Strongly disagree).
- All in all, how would you describe your state of health these days? (1. Very good.... 5. Very poor).”

5. AIRBNB – A LITERATURE REVIEW

In an increasingly globalized world, where sharing information is the centre of interest, Airbnb seems to fit into this innovative way of living (Zervas, Proserpio, & Byers, 2017): sharing, sharing of information, sharing of housing, sharing of friendship, sharing of hospitality, sharing of languages, sharing of food, and sharing money, just sharing of everything you could ever think of, called the sharing economy, or the collaborative consumption (Hamari, Sjöklint, & Ukkonen, 2016).

The author wants to point out the huge difference between the statements about ‘uncertainty avoidance’ and the sentence by Airbnb co-founder and chairman Joe Gebbia: ““I want to devote my resources to bring the moment of instantiation, when someone who has an idea sees it become real, to as many people as I can. It can unlock the understanding that they can make things happen, that they can shape the world around them. I want to enable as many people as possible, especially in underprivileged communities, to experience this magic firsthand.” (<https://givingpledge.org/pledger?pledgerId=200>)

Joe Gebbia states further: “When I started Airbnb in my living room eight years ago, I never would've imagined that the company would succeed to such an extent that it would eventually give me the ability to write this letter. Luck and timing aside, the company owes its success to the hard work and dedication of many incredible people over the years.

What I'm most grateful about in Airbnb's growth is that I've been able to see firsthand what happens when you open doors for entrepreneurs on a global scale. I've heard stories of people who started hosting out of necessity, then discovered a new source of income, and along the way accumulated a richness of experience and a renewed self-confidence. I've been blown away time and time again by the power of entrepreneurship, whether through our hosts, small business owners, or social entrepreneurs. Not only can it provide financial independence, allow people to pursue their passions, and increase people's belief in themselves; it can also strengthen communities, break down barriers, and forge ties around the world.” (<https://givingpledge.org/pledger?pledgerId=200>)

“Airbnb was born in 2007 when two Hosts welcomed three guests to their San Francisco home, and has since grown to over 6 million Hosts who have welcomed more than 1 billion guest arrivals in almost every country across the globe. Every day, Hosts offer unique stays and one-of-a-kind activities that make it possible for guests to experience the world in a more authentic, connected way.” (<https://news.airbnb.com/about-us/>)

The three founders are: Brian Chesky, Nathan Blecharczyk, and Joe Gebbia.

Co-founder and Chief Executive Officer

“Brian Chesky is the co-founder and Chief Executive Officer of Airbnb and sets the vision and strategy for the company. In 2007, Brian and Joe Gebbia became Airbnb’s first Hosts. Since then, Brian has overseen Airbnb’s growth to become a community of over four million Hosts who have welcomed more than 1 billion guests across 220+ countries and regions.” (<https://news.airbnb.com/about-us/>)

Nathan Blecharczyk

Co-Founder, Chief Strategy Officer, Chairman of Airbnb China

Nate Blecharczyk is the co-founder of Airbnb, Chief Strategy Officer, and Chairman of Airbnb China. Nate plays a leading role in driving key strategic initiatives across the global business, particularly those which require a combined understanding of the business, product, and data. Recently he oversaw the creation of the Airbnb City Portal, an industry-first software solution that addresses the needs of cities relating to short-term rentals. Previously Nate oversaw the creation of Airbnb's engineering, data science, payments, and performance marketing teams. Nate holds a Bachelor of Science degree in Computer Science from Harvard University. As a guest, Nate has stayed in hundreds of homes using Airbnb and he is also a Host in San Francisco, where he lives with his family. Nate and his wife Elizabeth are signatories to the Giving Pledge. (<https://news.airbnb.com/about-us/>)

Here are the **Fast facts**:

- 6M active listings worldwide as of December 31, 2021,
- 100K cities and towns with active Airbnb listings as of December 31, 2021,
- 220+ countries and regions with Airbnb listings, as of June 30, 2021;
- 1B+ Airbnb guest arrivals all-time as of September 20, 2021
- 4M+ Hosts on Airbnb as of June 30, 2021
- \$150B+ earned by Hosts, all-time as of February 2022
- \$13.8K average annual earnings per US Host as of March 2022

About the history:

- In October 2007 Brian and Joe host 3 first guests with Airbed & Breakfast
- In March 2008 Airbed & Breakfast officially launches during SXSW. They have 2 bookings!
- In August 2008: For the Democratic National Convention, the Airbed & Breakfast website launches in time and gets 80 bookings.
- In August 2008 also Airbed & Breakfast launches 'Payments', the payments platform, that then in 2019 processed about \$70 billion in guest and Host transactions in over 40 currencies.

What is Responsible Hosting for Airbnb?

On the airbnb website they have a page about 'Responsible hosting' per country, applying the different regulations in each and every country. <https://www.airbnb.com/help/topic/272/responsible-hosting>

"Responsible hosting:

These responsible hosting articles can help you start learning what it takes to be a host in your region. Each article has information about situational and location-based rules, including laws,

regulations, taxation, best practices, and other considerations that apply to hosts of places to stay on Airbnb.”

Responsible hosting includes also rapid changes due to a rapidly changing world, notably during the COVID-19 pandemic, where Airbnb engaged into corporate social responsibility (CSR) activities (Chuah, Sujanto, Sulistiawan, Aw (2021), including the ‘Superhost Relief Fund’, offering free housing for healthcare workers, nurses, doctors. As CSR activities engage in maximizing economic, social and environmental well-being in the long term, including business practices, policies and resources (Du, Bhattacharya, & Sen, 2011). This is what Voegtlin and Patzer (2020) entitle ‘Responsible Global Leaders as Drivers of Responsible Innovation’, the title for their 2020 research, after having published in 2012 a paper on “‘Responsible Leadership in Global Business: A New Approach to Leadership and Its Multi-Level Outcomes’”, they now combine Responsible Leadership, Globalization and Airbnb. Voegtlin and Patzer (2020) state: “The world is changing at an unprecedented speed, driven especially by globalization, technological innovation and the resulting behavioral changes in consumption, communication, mobility, and social life in general. These changes contribute to the grand challenges our planet is facing, like climate change, the economic disequilibrium between rich and poor, or mass migration.” This includes Airbnb with its responsible innovation, to guarantee a sustainable future by responsible innovation in a globalised world.

6. METHODOLOGY

For the purpose of this research, the current literature was reviewed for interviews in the field of responsible leadership and Airbnb. This means using secondary data, trusting what other people said to third people and how they wrote it down. In order to validate the findings from this secondary data, the author collected primary data while performing 10 semi-structured interviews: 7 with hosts, 3 with guests, from winter 2021 until summer 2022. Respondents were asked the following questions:

- A) What is the success of Airbnb in terms of ‘Responsible Leadership’ and ‘Uncertainty Avoidance’?
- B) What is different with Airbnb?
- C) Please give some examples. Tell us your stories!

For confidentiality reasons, interviews were not recorded or filmed. In-depth notes were taken during the interviews. After the interviews, the respondents were presented with a summary of the interview and asked for their consent. Interviews were in Luxembourgish, French, German, Dutch, Italian and Spanish and translated into English.

7. RESULTS FROM THE INTERVIEWS

7.a. Results from the interviews of the hosts

The results are presented in the following quotes: 7 hosts were interviewed

"This allows us to earn some money."

"My husband passed away last year, renting out my apartment allows me to have social contact, to be occupied, to feel less lonely."

"Most of my guests just want to be quiet. We have some contact and talk, but mostly, they just want to be on their own."

"My guests share with us our apartment, we have them with us all the time, in the kitchen, bathroom, living room. We share everything."

"I have several apartments rented out with Airbnb at the same time, please write me on the platform, otherwise I am getting confused. I don't want to double-book, imagine, this happened to me once."

"It is important to speak the language of the clients. Or at least, to be able to communicate with the guests. To find a common language, mostly it will be English, but not always."

7.b. Results from the interviews of the guests

The results are presented in the following quotes: 3 guests were interviewed

"I have been to many Airbnbs. I always check on 'booking.com', they offer both hotels and Airbnb's. Airbnb is not always cheap, it depends on where you stay. I once stayed in a castle. It was expensive and majestic. On another occasion, I stayed on a boat in Amsterdam. The owner especially parked the boat close to the city center for me, to be closer to everything I wanted to visit. In Madrid, I stayed in an apartment in the center, to be closer to where I had to go. It is great to be in contact with the owners, to have the social contact, and to talk with them, to be integrated in the social life of the place you stay. The host often offers an excellent breakfast. The host wants to show his best, he wants to make your stay the best possible, he offers the best he has. It is cozy, typical, like home. To become host you have to be admitted following the strict rules, to be found on the Airbnb website, this is responsible management, to follow the security. I also know that some real estate owners group single hosts to offer them better to the market, by taking a certain commission. Regarding the languages spoken, I speak several languages and always get along wherever I travel. Mostly it is English, I would say, that is used worldwide, however I think that Airbnb gives the hosts certain help to explain the guests what to do. It starts with giving the keys and explaining the necessary things like the wifi and the surroundings.... Security is the top priority, and also the safe payment of the hosts by the guests, by taking a commission. For the hosts, it is a possibility to make some money by renting out free rooms, apartments, garden houses, boats, castles and many more by renovating them

and then renting them. Contrary to the hotel, where you don't have contact, it is the contact, the coziness, the private atmosphere like home combined with security, not to be surprised negatively."

What makes Airbnb's success? What is special with Airbnb? was answered like this:

From the viewpoint of the hosts:

You can make money by renting out your house / apartment / room.

You have your home renovated, cleaned, up to date.

You can have social contact.

You speak with the guests.

You are less alone, you are part of a community.

The safety regulations behind, the legal security.

The responsible management behind the system.

The IT platform, the website, the payment.

The simplicity of use of the website and the payment

From the viewpoint of the guests:

You save money, because the rent is lower than the hotel rate.

You live in a less sterile home than the hotel, you have a real home: this is like home.

You have social contact to the host.

You speak the language.

You can cancel your trip.

This is a truly global experience, hosts and guests are from around the world.

The IT platform, the website, the payment.

The simplicity of use of the website and the payment.

You can cancel.

In total, the 10 respondents come from 5 different countries: Germany, The Netherlands, Bulgaria, India, Italy, Luxembourg and speak 6 different languages, two holding double nationality. In general, we can say, Airbnb offers hosts and guests from around the world with all its nationalities and languages.

Native languages are Dutch, Italian, Bulgarian, Luxembourgish, German, 1 respondent speaks eight languages, 1 speaks 5 languages, and so on.

Seeing these results from my research shows the importance of speaking the language of the clients! However, it is mostly English that prevails. Airbnb assures that guests and hosts are able to communicate together.

8. CONCLUSIONS, LIMITATIONS AND FURTHER RESEARCH

The purpose of this study was to combine research about responsible leadership and uncertainty avoidance with Airbnb. The research was a mix of literature review and a qualitative study, where 10 semi-structured interviews were conducted from winter 2022 until spring 2022 to confirm the findings from the literature. The research questions were: a) What is the success of Airbnb in terms of 'Responsible Leadership' and 'Uncertainty Avoidance'? b) What is special with Airbnb? C) Please give some examples. Tell us your stories! After the literature review, the author reprinted some of the interviews here.

In conclusion, the author's proposition was confirmed: Airbnb is special because of its responsible leadership and uncertainty avoidance, combined with change, innovation and a sharing globalized community. Key words in the findings are 'sharing globalized community', 'change', 'innovation', 'speed in change'. With the words of Vrontis, D., El Namar, S., Al Osta, B., & Azizi, J.R. (2018), this is the impact of innovation and change management. Especially in this globalized world, and the rapidly changing globe, Chuah et al (2021) point out how Airbnb engaged in corporate social responsibility (CSR) activities. This includes the maximization of economic, social and environmental well-being, the long-term orientation of business practices, policies and resources (Du et al, 2011). Especially interesting to the author's research is the research by Voegtlin and Patzer (2020 and 2012) about Responsible Global Leaders as Drivers of Responsible Innovation, including new inventions like Uber and Airbnb and many other Start-ups. Voegtlin and Patzer (2020) state: "The world is changing at an unprecedented speed, driven especially by globalization, technological innovation and the resulting behavioral changes in consumption, communication, mobility, and social life in general. These changes contribute to the grand challenges our planet is facing, like climate change, the economic disequilibrium between rich and poor, or mass migration." This includes Airbnb with its responsible innovation, to guarantee a sustainable future by responsible innovation in a globalised world.

Future research could look first into responsible leadership and talent management within Airbnb, and second into networking, friending, dating, and responsible leadership within Airbnb.

The prime research limitation was the time limitation. This research was made with the objective of a conference presentation. A secondary limitation was a personal limitation. The author being a single person cannot fully replicate work done by larger groups of researchers, such as the GLOBE (House et al., 2004) etc. Also, the author decided to concentrate on Geert Hofstede's research. This decision can be contested, however Hofstede was the initiator of cultural dimension research, despite later criticism of his methods.

This being a mix of literature review, secondary data and primary data from qualitative research, more sophisticated statistical methods could be used in the future with the objective to deepen the results.

Another particularity the author would like to point out is the fact, that the interviewed managers were exclusively 'responsible leaders' in their own eyes. None of the interviewed leaders said: "I am an irresponsible leader" (Schinzel, 2017b).

Observation is the beginning of everything, and the author did exactly this: observe the current situation, supported by analysis of ideas on responsible leadership theory and cultural dimensions theory.

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THE EFFECTS OF BUSINESS MODEL IN VALUE CREATION AND VALUE CAPTURING ACTIVITIES FROM AN ACCOUNTING PERSPECTIVE

Solimene, Silvia; Fontana, Stefano; Coluccia, Daniela

Dept. of Business and Law, Sapienza, Faculty of Economics, Rome, Italy

ABSTRACT

The accounting dimension of Business Model is linked to the results of the company's value creation and value capturing activities, taking the balance sheet quantities as a starting point. The paper draws the main theoretical foundations of the Business Model concept by combining them with the theories of value and with the related aspects and effects of financial statements in the context of traditional studies of business economics. Its efforts are devoted to empirically verify the relationships that exist between financial accounting figures and those representatives of market values. The analysis is settled within the Knowledge Based sectors of the New Economy, where the accumulation and reporting of intangible assets, recorded and above all unrecorded, play a central role in the generation of value, as this is perceived on the markets. The results show a mismatch between financial reporting (economic performance) and market values (market performance) mainly due to the complex recognition and valuation of intangible "resources". The reflections that the paper offers lead back to the difficulties in terms of identifying these resources (signaling capacity of current accounting standards), the purpose of the company's financial statements (information utility) and its qualitative characteristics of "relevance" for investment decisions and the ability to provide "faithful information" to the company's economic reality.

Keywords: Business Model, Accounting, Value, Relevance

INTRODUCTION

Although there have been many attempts to frame the theoretical foundations of the Business Model concept (i.e., transaction costs [Amit et al. (2001)], Resource-Based [Demil et al. (2010)], Entrepreneurship [Morris et al. (2005)], and Network [Frankenberger et al. (2013)] Theories - just to name a few - the conceptualizations have remained at a pre-cumulation level and have remained autonomous explorations and singularly adhering to some currents of thought (Foss et al., 2015). In addition, the understanding and identification of the Business Model of companies have been the subject of purely qualitative studies, while more quantitative studies are of recent elaboration and

relatively little place in the doctrine. Case studies of individual and specific Business Models have been by far the prevailing methodological approach in research on the subject combining the tools and perspectives to define and concept business model in theory and practice, [Belussi et al. (2019)].

For these reasons, the static representation, even of the fundamentals related to the evolution of new Business Models, where recognized as a limit to research, is still criticized in a limited way, [Linder et al. (2000)], with the consequence that studies on the Business Model of this type are resolved in theorizations around the subjective statements that are made by managers [Schaller et al. (2019)].

In addition, the quantitative research on the Business Model was aimed at identifying the advantages achieved through specific Business Models, while neglecting the need to define central and paradigmatic aspects of the Business Model concept around the creation of value by companies, which makes it an unstructured topic of ambiguous collocation (Wirtz et al., 2016). For these reasons, the centrality of the Business Model with respect to the issues of creation and extraction of corporate value from an economic perspective is still poorly investigated.

The research on the relevance and significance of the information around the Business Model, also for the purposes of a theoretical elaboration, must instead necessarily pass through the definition of a generalist methodology that can be applied broadly on the basis of observable data [Fielt (2014)].

In order to obtain more generalizable results, quantitative perspectives must therefore be adopted. What is certain is that these steps cannot take place suddenly, but the quantitative methodological investigation can be of aid to the qualitative one to experimentally try new approaches and new ways of research also in order to provide tools to understand the "discourses" that around the Business Model every scholar can elaborate.

Consequently, on the basis of the considerations of the pre-existing literature, the research proposed in this chapter aims to identify a new way of describing and representing the Business Model through the behavior that companies implement, starting from mainly financial and quantitative quantities, so that these data and these behaviors can be compared.

From a company policy point of view, an approach of this type could be of assistance in the development by managers and entrepreneurs of the constituent elements, that is, of the levers of value and the determinants that create corporate value. From a Business Model reporting point of view, an approach of this type can also be useful to external users of the financial statements to understand what the Business Model is based on in terms of behavior that leads to the creation of value and their possible aspiration to distribution.

This work, however, does not claim to conclude anything theoretically, but to observe the capability of financial statements to highlight whether the value creation and value capturing processes are aligned. In other words, one wonders if the two activities are united by the same determinants that the

literature traditionally identifies, or if there is a gap between the two activities, or a missing link, which deserves to be investigated as a further step of the research.

In another way, the research question of this joint work is to empirically observe the relationships between value creation and value capturing of companies, which represent two fundamental aspects that can be summarized in the Business Model of firms.

VALUE CREATION AND VALUE CAPTURING

The global growth that economies recorded in the late nineties of the twentieth century has raised some critical issues due to the confusion on the explanation of the value created on the markets by companies, with the hypothesis that these values could be originated only from the excess of financialization of economies, rather than from growth, real and even social, of the same. This phenomenon, in fact, has not been accompanied by a parallel growth in the incomes and real wages of workers or, rather, it has occurred that the distribution of wealth has been increasingly concentrated in the hands of a few subjects (phenomenon of the appropriation of economic rents beyond the correct transactions that take place on the market, (Davies et al., 2014). Therefore, much attention must be paid to the study of the determinants of value creation, especially when it is assumed that a company, ultimately, must create value for its main stakeholders, that is, shareholders and at the same time must respect the constraints of durability and cost-effectiveness with respect to the investments to be financed for growth. The issue is all the more important the more the focus shifts from individual companies to a more aggregated level, where global value creation must align with effective growth for the community. In a hypothesis of alignment between the activity of creation and realization of value, it is verified that the value created by companies and perceived by the markets would be captured/realized by the company's results, in the form of a return on equity greater than the average market returns and in the form of distributable income and subsequently attributed to the different capital holders, with the consequence that the company balance sheet is a tool for capturing a previously created value. But how much value created by companies is captured by the company in the form of operating results both in terms of income streams and cash flows? (Davies et al., 2014; Mazzucato and Shipman, 2014).

Value creation is attributable not only to the value added to production (value added) tradable on the market, that is, to the ability of the company to offer a good / product / service earning from the difference between the sale price and the purchase price of the production factors used, but also derives from the possibility of creating new ones without there being an immediate economic reflex. This time delay in capturing the value created can be remedied, according to current international accounting standards, by the capitalization of assets from which, reasonably, it is expected to benefit in

the future, such as fixed assets and intangible assets. This accounting practice would make it possible sooner or later to realign the gap between the creation of value and the realization of the same that will take place at a later time when the company's production finds its place on the market. Moreover, as Mazzucato et al. argue, there are problems with certain items of expenditure such as research and development expenses, which sometimes do not find a place in the balance sheet or find it only in their finalization phase. And in the event that they do not find capitalization but are spent in the income statement as intermediate costs of production, distorting effects are produced in the ability of the balance sheet to effectively capture the value created, because the capitalization of research and development expenses is at risk of actual transformation into an asset. That is, there is value created but not captured. Even the possibility of capturing value compared to what has been created in the past is underestimated when certain business investments (such as intangibles accounted for) are not regularly revalued to allow new generation of value. The distortion between created value and captured value becomes even more evident in the sectors of the knowledge-based economy whose value creation function intensively uses intangible means of production. As Michel et al. (2014) argues, companies place too much attention to value creation but not to its capture and measurement through financial statements. At the very least, we are faced with a reversal of the traditional assumption that it is the balance sheet that guides market values. In fact, it is becoming increasingly clear that, in the new context of the knowledge economy, the market is able to perceive what is not communicated in the balance sheets. Budgetary practices not only do not allow to fully capture the value created, but in some cases limit it over time (with the practice of limited depreciation) or do not even consider it, as in the case in which the value itself is generated by relational capital, human capital, externalities and therefore by relations with the outside, from implicit or tacit knowledge and therefore from what we could call invisible and unregistered intangible assets. Interestingly, suddenly, such values appear in the balance sheets when the company itself becomes the subject of a transaction on the market through extraordinary operations. In this occasion, indeed, the value created is explained and the buyer appropriates the value created by the complex that is acquired.

INTERPRETING BUSINESS MODEL THROUGH ACCOUNTING FIGURES

In accounting terms, does the mismatch between value created and value captured therefore make the relevance of financial and accounting information of little importance? The remarriage is obviously negative because the balance sheet remains an essential starting point for its nature as a manifesto of the value creation model pursued by the managerial hierarchy. According to Lassini et al. (2013), the definition of which components articulate the Business Model is not relevant in itself, but how users of the financial information extracted from the financial statements can perceive the activities that lead

the company to the creation of value, to the generation of results and profits in a lasting way over time. According to the authors, this implies an extension and a more accurate financial statement of financial statements with respect to the conclusions (the Business Model is poorly interpretable by accounting choices). In summary, the financial statements should update their language so that they are not only comprehensible and clear but also complete, meaningful and relevant, as prescribed by accounting standards.

The observation of data, quantitative and not, taken from the company's financial statements, can also help in identifying common or different behaviors that act on company performance. This, moreover, only if the data are observed over a wide period of time and if the quantitative analysis of the accounting data is able to highlight the relative position of a company compared to other competitors, through the quantities that qualify the Business Model. This means raising the degree of signage of the balance sheet through the lens of the Business Model as well as authoritative national and international doctrine. Lev (2000) had predicted at the dawn of a New Era of Accounting, Barth et al. already in 2001 emphasized the importance of value relevance in positive accounting studies to address the fundamental characteristics that the main conceptual frameworks attribute to financial statements, namely the reliability, faithful representation and relevance of the financial statements.

Recently, Barth et al. (2022) have shown that the value determinants vary over time and their relevance decreases or grows according to the profound technological transformations that have manifested themselves from the apex of the traditional business model to the consolidation of a business model typical of knowledge-intensive sectors. The traditional quantities, such as net income, were very explanatory of the market value of companies in the sixties and seventies of the twentieth century but decrease over time their explanatory power because to it are added others mainly related to intangibles and other performance measures.

MAIN AIMS AND RESEARCH DESIGN

To establish to what extent the quantities observed by the company financial statements explain the value relevance of an enterprise, it is necessary to identify among the multiple financial statements which have a significant relationship with the different measurements of the value itself. Much of the literature identifies different measures for estimating value relevance through single stock price, market multiples, or through market capitalization [Barth et al. (2022)]. In our perspective, value relevance identifies the appreciation that markets make with respect to the activity of value creation (linked to future economic prospects) for all stakeholders for whom the market capitalization appears even more appropriate for its ability to capture the size of the company [Lassini et al. (2016)]. Market capitalization is measured by the total value of outstanding shares which depends on the supply and

demand of the shares in the market. Under a hypothesis of efficient financial markets, can be considered a faithful approximation of the value created and perceived by investors, both in terms of capital invested by the company, tangible and intangible, and of factors, internal and external, not recognized in the balance sheet that represent productive resources (Burton, 2003; Mohanty, 2008). At the same time, it is a dimensional measurement. It is also represented by annual average values in logarithms which have a good degree of effectiveness for the purposes of this analysis.

Figure 1 shows the trend of market capitalization over time for the different subsectors of the Technology-Equipment sector.

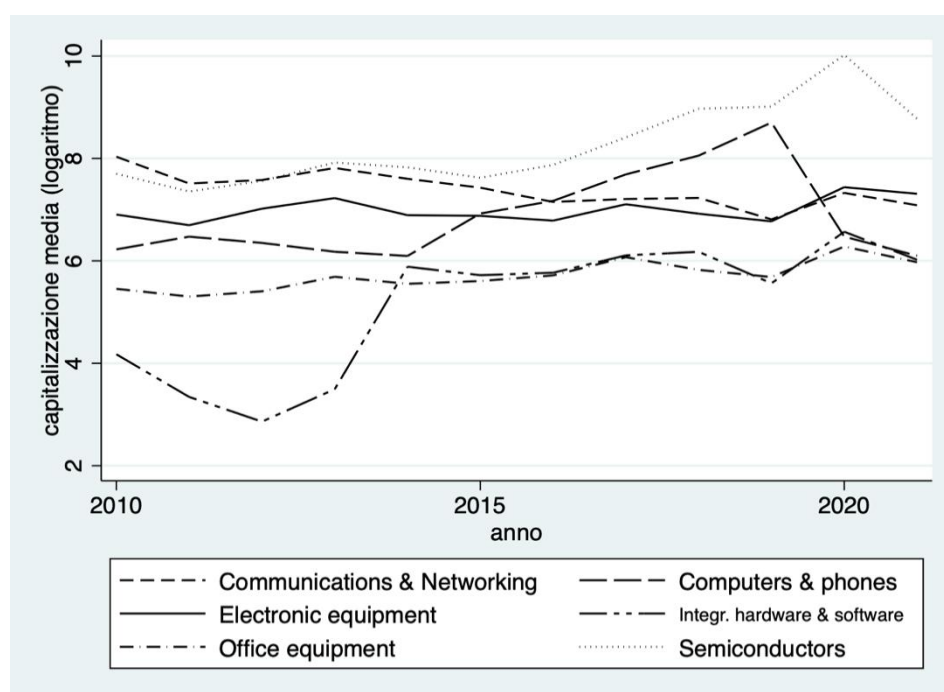


Figure 1. Market capitalization trend by sub-sector. 2010-2021. Values in logarithms.

Source: Our processing on REFINITIV data.

The fast-growing capitalization sectors are Integrated Hardware & Software and semiconductors; the Electronic Equipment sector shows moderate capitalization growth over time; Office Equipment and Computer & phones show a stagnant capitalization; and finally the Communication & Networking sector records a decreasing capitalization.

As part of the availability of financial balance sheet data, the research must identify the set of variables that are most likely to direct the investor to understand the levers that the company strategically activates in the value creation process. In other words, it means identifying the accounting implementation of the Business Model and its impact on the creation of the value that the market considers generated by the company. This value, the one generated by the company, differs from those other quantities that identify the effectiveness of the Business Model, that is, value capturing, understood as the ability of the value created to translate into cash flows and income for stakeholders.

Consequently, the second variable that is explained in this model is the differential between the Return on Corporate Equity (ROE) and the average return on equity of the sector to which it belongs [Lev et al. (1982)]. To this end, the same set of variables taken from the balance sheet can be used, both to explain value creation and to explain value capturing.

The research design involves selecting the determinants of value on the basis of the existing literature and verifying them both on market capitalization and on traditional performance measures (Return on Equity – ROE). The analysis is carried out at the level of a specific sector of the so-called New Economy, named “Technology Equipment” which includes the following subsectors: Integrated Hardware & Software, Semiconductors; Electronic Equipment; Office Equipment, Computer & Phones and Communication & Networking. Geographically, the sample includes only listed European companies operating in these sectors. The REFINITIV platform accessible from Datastream collects the fundamental financial statements prepared according to IAS/IFRS and other market information. Among the 312 companies that make up the Technology Equipment sector, those with full data coverage were selected from 2015 to 2019. The choice of the initial term of the analysis depends on the need to sterilize the effects of the sovereign debt crisis in Europe that lasted until 2014. Although data for 2020 and 2021 were also available, these were excluded because they were potentially affected by the recent COVID-19 pandemic. The skimming operation returns 156 companies that meet the selection criteria. The decision to limit the analysis to the Technology Equipment sector exempts research from the usual problem of discerning between companies belonging to the New Economy sector and those of the Old Economy as reported by Lazonick and Barth et al. (2022). By reducing the sample heterogeneity, many confounding factors are neutralized and more clearly the characteristics of the Business Model of the New Economy enterprise emerge. However, country-specific idiosyncrasies remain that will be taken into account in empirical analysis. The information on the determinations of value relevance and value capturing is further subject to a multivariate analysis to reduce redundant information through the consolidated methods of Principal Component Analysis and Factor Analysis. The multivariate analysis gives us a more compact and useful information in the next phase of the study in which the most relevant explanatory variables of the value are related to the market capitalization and the company ROE with respect to the ROE of the sector in search of significant association measures.

Selected variables explaining the Business Model

Several studies have investigated the relationship between accounting quantities and market quantities, based on the theoretical foundations of Modigliani et al. (1958) and by Ohlson et al. (1995) aimed at verifying which firm-specific factors influence the market value of undertakings. The first studies, in fact, focused on the traditional measure of net operating income and derived indicators

concluding for a relationship between this and the market value [Ball et al. (2014)]. In the course of studies and the accumulation of research data, a reduction in the relevance of these variables on market value has been highlighted, especially with the passage of time and in association with other accounting quantities [Collins et al. (1997)]. A first explanation depends on investments in intangible assets that generate a time lag between the investment phase and the market realization phase. Lev et al. (1999) identify a weak association between net income and market value, due to the temporal mismatch of expenditure and revenue associated with the recognition of these assets. From an economic point of view, in some cases, these investments are spent in the income statement, even if they produce value which is why accounting standards have not been able to adapt to market changes with a deterioration of the salient feature of the faithful representation of financial statements (Zéghal et al., 2011; Mazzucato et al., 2014; Lev et al., 1999). A second explanation, Donelson et al. (2011) attributes the weakest correlation to changes in the economy, the growing number of new businesses that base their Business Model on intangible assets, and the different accounting sets used [Kadri et al. (2009)]. According to Barth et al. (2022), net profit is shown to have a decreasing effect on a company's market value over time, also due to the phenomenon of the growing number of loss-making companies in the New Economy. For this reason, the magnitude of net income has been excluded from this research, with the aim of identifying further ones. For the same reason, the Capital variable is also not considered in this research as a determining variable of value. In fact, despite having been demonstrated by Ohlson (1995) and Collins et al. (1997) that the company's equity has improved over time its relationship with the market value of a company, the recording of many losses in New Economy companies makes it much more volatile, sometimes undermining the aggregate values of some traditional measures of performance in the markets, such as the Price/Book Value multiple [Penman (2009)], [Hail et al. (2013)]. Moreover, since the Equity used for the estimation of the variables considered in the present research (Leverage Ratio and Tobin's q), it is not considered in the analysis.

The variables dealt with here are organized according to whether they represent, on the one hand, growth variables, which measure the company's ability to expand its investments and means of production and, on the other hand, financial measures that represent the company's choice to resort to external sources or internal sources, such as self-financing, or dividend policies.

With regard to the growth profile, the following variables were selected: Tangible and intangible assets on total assets at their depreciation and write-downs; Tobin's q. Variables linked to tangible assets and intangible assets are currently recognized as strongly correlated value creation measures and increasingly over time [Core et al. (2003)] . With reference to tangible assets, it is explained by Aboody et al. (1999) a positive relationship of this asset class to market capitalization, when considered gross of depreciation and amortization (representing corporate self-financing). With reference to immaterial

quantities, a lot of literature exists on the subject as demonstrated by Güleç (2021). Specifically, on registered intangibles, without considering derivative goodwill, such as the brand software R&D expenses, advertising and marketing expenses [Kallapur et al. (2004)], [Aboody et al (1998)]. Literature concludes for a growing and positive relationship between these figures and market value. Moreover, even if the production functions were updated with the inclusion of intangible factors, the market value would still escape the accounting quantities, to the point that, according to Lev (2000), the value relevance is explained for the most part by latent intangible figures, up to glimpse the end of the traditional Era of Accounting, due to the inability of financial statements to faithfully, correctly and reliably detect the contribution of "invisible" assets to the current profitability of the enterprise and to the future production of income [Lev (2018)]. For this reason, it is necessary to consider a quantity that explains the latent values to the balance sheet that determine the business value.

All the subsectors covered by our analysis fall within the classification of sectors with high or medium technological intensity and are those potentially likely to reflect in the market values the sources of value not detected by the company's financial statements. The economic-financial literature has recently clarified that a large part of corporate intangibles, especially in technology-intensive sectors, are not properly reported but can be evaluated by mixed indicators, partly accounting and partly market. The well-known Tobin's q has often been referred to as the variable representing the cost of reproduction of corporate assets and thus the opportunities for investment and growth of the enterprise [Hayashi (1982)]. Before the spread of the Knowledge Based Economy the Tobin's q had as a clear reference the investment in physical capital but with the progressive emergence of the technology of the third industrial revolution, the intangible factors in production have assumed decisive pre-eminence [Corrado (2010)]. Recently, Peters et al. (2017) have shown that Tobin's q mainly reflects unreported and unrecognized corporate Intangibles and that this variable explains a good part of the companies' market values. Below we present one of the possible definitions of Tobin's q that you can identify with the data at our disposal. This is defined by:

$$\frac{\text{Capitalization} + \text{net debts} - \text{cash}}{\text{Total Assets}}$$

where net debts are understood as short-long-term payables net of readily liquidable investments.

With regard to the sources of financing, the following were selected: financial leverage (Ratio between long-term financial debts and total investments); self-financing (measured by the ratio between profit reserves and tangibles and balance sheet intangibles investments, net of liquid values); dividend yield, i.e. the dividend yield, understood as the ratio of total dividends to the market price of outstanding shares (measures the share return in the absence of capital gains).

Leverage according to authoritative doctrine it is a measure that can finance the growth of investment [Rajan et al. (1998)]. For this reason, it is selected here as a variable that explains the changes in the

market values of companies and as a variable of economic performance. On the effect of the report, in this research it is investigated together with self-financing as quantities that summarize the choice of the management to finance investments, also in light of the controversial significance that over time the variations in the financial leverage produce on the value, due to the temporal lags of explanation of the effect [Dimitrov et al. (2008)].

Regarding the dividend variable, multiple studies have been carried out in an attempt to provide an explanation of the relationships that are observed between dividend payments and stock returns [Clayman et al. (2008)]. The decision to pay (or not to pay) a dividend, as well as the amount of the dividend payment, was considered relevant by Lintner (1962), Gordon (1963) and Fama et al. (1968) according to which dividends could be considered a variable that investors consider in the investment valuation decision-making process. Since then, multiple researches have focused on trying to provide an explanation for business value through this variable. For an investor, it is fundamental, not only the size of the dividend, but also the stability and adequacy of the distribution, with respect to the market and with respect to the tradition of the company and this managers must take great account in their managerial strategies. Watts (1973) identifies a positive relationship between distributed dividends and future income streams, also in light of the theoretical basis for which the value of a company can be measured by the discounting of future dividend flows [Ohlson (1995)]. For this, the direction of the studies was aimed at verifying the size/amount of dividends [Asquith et al. (1983)]. Since it has been empirically verified a reduction in the propensity of companies to pay dividends over time, the research of the last twenty years has also gone to verify the effects of changes over time in dividend policies by companies and to investigate their causes [Gwilym et al. (2000)], [Bilinski et al. (2021)].

In fact, it could reasonably be expected that, mirroring this reduction, companies have activated other sources of growth financing by choosing to retain profit to finance their investments deemed indispensable. Here, the strategic choice of managers to distribute dividends is observed with respect to its market appreciation, and with respect to its ability to reflect economic performance [Jensen et al. (1976)].

Finally, this analysis includes two sets of dummy variables related to the industrial sectors and the geographical area of operation of the companies in the sample. Even if the analysis is focused within a macro-sector – Technology Equipment – it is necessary to grasp any differences in terms of market values between companies that belong to specific subsectors, or between different subsectors, in order to better identify the variables or behaviors that lead to the generation of value for homogeneous companies by macro sectors [Barth et al. (1999)]. The same goes for geographical areas. These variables are returned from the Datastream database. Regarding the relationships of these variables there are no particular expectations about the result.

Finally, the longevity of the enterprise was considered, measured as the number of years of activity since the foundation of the enterprise. In the opinion of the writer, this variable reflects the going concern linked to the learning skills over time of the company to efficiently manage the innovative and remunerative processes of the capital employed [Jovanovic (1982)]. It should be noted that 50% of companies in the sample were founded after 1992, about a quarter from 1980 to 1991 and the remaining quarter were founded before 1980. With respect to the impact of longevity on market values and efficiency, the literature does not agree, highlighting either a positive effect, in the classic Schumpeterian vision that longevity reflects the company's ability to remain competitive on the market or, on the other side, highlighting a negative impact on value [Fariñas et al. (2000)]. Here longevity is seen as a characteristic that mature but innovative companies have accumulated in the form of implicit knowledge derived from the fact of being able to penetrate the markets and to remain there with an efficient management of production processes; therefore, it is intended as a value relevant measure.

Procedurally, monetary variables are expressed in dollars and have been converted into constant prices through the implicit US GDP deflator (Organization for Economic Cooperation and Development, GDP Implicit Price Deflator in United States [USAGDPDEFAISMEI], FRED, Federal Reserve Bank of St. Louis).

The exploratory analysis with Principal Component Analysis applied to Business Model

The availability of financial data obtained from the financial statements and their transformations that account for the typical measures of the company's behavior offer us a wealth of valuable information but at the same time a complex representation of the sources of value. In addition, when you want to use this information for in statistical inference purposes, you risk incurring an overrepresentation of the data that can affect significant correlations from an accounting point of view. The statistical and practical problem in data analysis was well explained by Angrist and Pischke who introduced the concept of "bad controls" [Angrist et al. (2009)]. Some variables, when added to inferential analysis, can produce distorted results by masking the true relationships between the variables of interest. This typically manifests itself in the case of collinearity between variables that are linear combinations of other variables present in the statistical model that is intended to be used or that instead are themselves variables to be explained and not, therefore, explanatory variables. With the data taken from the financial statements these distortions are frequent given the interrelationships between the balance sheet quantities and considering that some variables are not determinants of the value but represent, in some way, the value itself. To overcome these problems, an effective solution lies in the methods of reducing variables without losing the information contained in the available dataset. The variables discussed in the previous paragraph have been selected on the basis of their theoretical relevance for the representation of the Business Model and for their ability to explain the corporate

value according to the meaning that is intended to give to this term. However, they continue to provide an over-representation of data that can be reduced with principal component analysis (PCA) whose purpose is precisely to reduce data dimension by preserving as much information as possible. In PCA the aim is to understand if there are relationships between the variables that represent the available data through the study of the matrix of variances and covariances. Next, this matrix is used to calculate eigenvalues and auto-vectors to determine the main components that enclose the data information. Thus, the main components are new variables that represent linear combinations of the previous variables or mixtures of the same. These combinations are bound to be unrelated to each other in order to be used as real variables in inferential analysis. One way of interpreting PCA is by trying to refocus the view on the variables available. It should also be taken into account that, usually, the first main component is the one that contains the greatest information; the others contribute in a decreasing way to explain the variability between the data.

The following Tables propose the PCA for our variables that potentially represent the determinants of business value (The STATA 16 software was used to estimate the main components). The analysis is carried out for three reference years in 2019 (Tables 1-2), 2017 (Tables 3-4) and 2015 (Tables 5-6).

Table 1. Principal Component Analysis. Year 2019. Obs.: 153. Components: 7. Non-rotated matrix

Components	Eigenvalue	Difference	Proportion	Cumulative
Comp1	1.57463	0.230065	0.2249	0.2249
Comp2	1.34456	0.215301	0.1921	0.417
Comp3	1.12926	0.06864	0.1613	0.5784
Comp4	1.06062	0.266316	0.1515	0.7299
Comp5	0.794306	0.206931	0.1135	0.8433
Comp6	0.587375	0.07813	0.0839	0.9273
Comp7	0.509246	.	0.0727	1

Table 1 shows the self-values and variance explained by each. The cumulative variance explained is reported in the last column from which it is clear that the first four components explain 73% of the total variance. And in fact, the first four components are sufficient to correctly represent the characteristics of the available data. Table 2, on the other hand, shows the eigenvectors, which variables actually contribute to the greatest extent to each component.

Table 2. Principal Component Analysis. Year 2019. Obs.: 153. Components: 7. Eigenvectors

Variables	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Comp7
Tangibles on assets	0.3608	0.5597	-0.0664	0.2728	-0.2175	0.6518	-0.0755
Intangibles on assets	-0.0404	-0.7152	0.1568	0.11	0.1514	0.6524	-0.0395
Leverage	-0.6414	0.2199	-0.0601	0.0891	0.0706	0.2261	0.6874
Tobin's q	0.0598	0.0136	0.2324	0.8648	0.3527	-0.2642	0.0104
Self-financing	0.6546	-0.191	0.003	-0.0638	-0.0482	-0.104	0.7196
Dividend yield	0.1093	0.3	0.5708	-0.3901	0.6376	0.1164	0.0027
Longevity	0.1129	0.0147	-0.7665	-0.0367	0.6258	0.0655	-0.0475

From a purely computational point of view, the practice in this type of analysis is to consider the components with the eigenvectors equal to or greater than 1 which, in the case in question, are precisely the first four components. Note that the contribution in absolute value of each variable to the components provides general indications on the relevance of the variable itself for the representation of company data. For example, component 1 correlates positively with self-financing and at the same time negatively, and with about the same magnitude, with leverage. In other words, component 1 represents companies' financing strategy, their preference for external or internal sources. Component 2 is positively correlated with the physical means of production of the enterprise and negatively with the intangible means of production. From an interpretative point of view, in this case it would seem to emerge a trade-off in the corporate strategy whether to focus on the accumulation of physical capital or intangible capital. In fact, Tobin's q , which is highly correlated with component 4 and largely represents unrecorded intangibles on the balance sheet, suggests that there is a decisive contribution from intangible capital. However, the balance sheet data in their classical representation are not sufficient to signal the presence of such intangible assets that are typical of knowledge-intensive sectors.

The last step of the PCA involves redirecting the original data on the new axis defined by the main components through simple matrix algebra calculations, returning new variables to be used in inferential analysis.

The analysis carried out for 2019 is replicated for the other two years for which we have robust and consistent information. The following Tables then report the analysis for 2017 and 2015.

Table 3. Principal Component Analysis. Year 2017. Obs.: 155. Components: 7. Non-rotated matrix

Components	Eigenvalue	Difference	Proportion	Cumulative
Comp1	1.55369	0.167848	0.222	0.222
Comp2	1.38584	0.312469	0.198	0.4199
Comp3	1.07337	0.0505838	0.1533	0.5733
Comp4	1.02278	0.182547	0.1461	0.7194
Comp5	0.840237	0.205255	0.12	0.8394
Comp6	0.634982	0.145877	0.0907	0.9301
Comp7	0.489105	.	0.0699	1

Table 4. Principal Component Analysis. Year 2017. Obs.: 155. Components: 7. Eigenvectors

Variables	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Comp7
Tangibles on assets	0.3964	0.4787	0.2233	0.2651	-0.2489	0.5839	-0.3011
Intangibles on assets	-0.1952	-0.6559	0.0291	-0.0048	0.2009	0.6923	-0.1058
Leverage	-0.5589	0.4178	0.0538	0.091	0.0459	0.3196	0.6305
Tobin's q	0.0144	-0.1448	0.5633	0.6925	0.3453	-0.2432	0.059
Self-financing	0.6505	-0.2442	-0.0523	0.0045	-0.108	0.093	0.703
Dividend yield	0.2008	0.2136	0.4281	-0.5929	0.6128	0.0605	0.0102
Longevity	0.1695	0.1996	-0.6656	0.3004	0.6239	0.0778	-0.0534

Also, for 2017 the choice falls on the first four components. Although the variables that contribute most to each of the first four components do not vary, their weight is in three out of four components lower, as evidenced by Table 4. The economic-business considerations underlying the represented data carried out for the year 2019 seem to be confirmed also for the year 2017. In 2015, however, the best representation of data is offered by the first three components. For this set of observations, unrecorded intangibles seem less relevant.

Table 5. Principal Component Analysis. Year 2015. Obs.: 156. Components: 7. Non-rotated matrix

Components	Eigenvalue	Difference	Proportion	Cumulative
Comp1	1.70594	0.33088	0.2437	0.2437
Comp2	1.37505	0.271782	0.1964	0.4401
Comp3	1.10327	0.117777	0.1576	0.5978
Comp4	0.985495	0.191409	0.1408	0.7385
Comp5	0.794086	0.0794445	0.1134	0.852
Comp6	0.714642	0.393127	0.1021	0.9541
Comp7	0.321514	.	0.0459	1

Table 6. Principal Component Analysis. Year 2015. Remarks: 156. Components: 7. Eigenvectors

Variables	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Comp7
Tangibles on assets	0.2427	0.6012	0.0126	0.1701	0.1276	0.6935	-0.230
Intangibles on assets	0.0692	-0.6089	0.0728	-0.1805	0.6495	0.3778	-0.148
Leverage	-0.6408	0.21	-0.0424	0.0378	0.3165	0.1878	0.6376
Tobin's q	0.019	-0.1662	0.3005	0.922	0.1341	-0.116	0.0069
Self-financing	0.6945	-0.0777	-0.0557	-0.0045	-0.018	0.0662	0.7098
Dividend yield	0.1683	0.4032	0.5448	-0.2381	0.4944	-0.458	-0.023
Longevity	0.121	0.1655	-0.7762	0.174	0.4459	-0.335	-0.117

Factor Analysis applied to the Business Model

The fair number of variables taken into account to identify the Business Model accurately describes the characteristics of the companies in the sample, but at the same time makes it difficult to identify the differences and similarities between them. The statistical characteristics of the PCA allow a limited use of the results of the analysis for the main purpose of our work which is to relate the business value, in its different definitions, with the business levers that produce that value.

An alternative methodological approach uses Factor Analysis (FA) to identify latent factors of the Business Model [Kim et al. (1978)]. It shares some conceptual similarities with PCA to the extent that FA also tends to group variables to maintain as much information as possible about data variability while reducing the size of variables to make analysis more intelligible. However, FA differs substantially from PCA. In fact, the latter gives us a mere combination of variables, while the former provides a model for measuring latent variables. In other words, the FA allows to identify latent variables that have a meaning, in our case an economic-business sense, more precise for the analysis

that we want to conduct here, that is, the qualification of behaviors aimed at generating and capturing corporate value.

Factor analysis was conducted on the variables that are most likely to represent the sources of value. The chosen algorithm returns four latent factors that best represent the variability of the available data. Table 7 shows the results of the factor analysis for the year 2019 which shows that the four factors to be selected are those with self-value (eigenvalue) greater than or equal to one. The four factors together explain more than seventy percent of the variability in the data. note that this first step of the fa returns results identical to those of the PCA because of the algorithm that you choose.

Table 7. Factor Analysis. Method: principal-component factors. Obs.: 153. Year: 2019. Selected factors: 4.

Factors	Eigenvalue	Difference	Proportion	Cumulative
Factor 1	1.57463	0.23007	0.2249	0.2249
Factor 2	1.34456	0.2153	0.1921	0.417
Factor 3	1.12926	0.06864	0.1613	0.5784
Factor 4	1.06062	0.26632	0.1515	0.7299
Factor 5	0.79431	0.20693	0.1135	0.8433
Factor 6	0.58738	0.07813	0.0839	0.9273
Factor 7	0.50925	.	0.0727	1

LR test: independent vs. saturated: $\chi^2(21) = 75.92$ Prob> $\chi^2 = 0.0000$.

The second step of factor analysis is the study of factor loadings that allows to verify which variables are most correlated with the factors identified. The results are shown in Table 8 and indicate for each factor the degree of correlation of the variables with the single factor. In addition, the column "Uniqueness" indicates the share of the variance of the single variable not shared by the others within the factor analysis suggesting the greater the value of the "Uniqueness" the less relevant the variable. The first factor (Factor 1) is dominated by self-financing. Note that the same factor is negatively correlated with leverage by indicating two alternative behavior strategies. To better interpret the inferential analysis of the following paragraph, we choose to look at this factor from the side of positive correlation with self-financing. The second factor (Factor 2) is highly correlated with the tangible capital recorded on the balance sheet and negatively with the recorded intangibles. Also, in this case we choose to look at the positive correlation by interpreting the factor as representative of the tangibles recorded. The third factor (Factor 3) is characterized by business longevity while the fourth factor (Factor 4) is dominated by Tobin's q.

Table 8. Rotated factor loadings (pattern matrix) and unique variances. Year 2019.

Variables	Factor 1	Factor 2	Factor 3	Factor 4	Uniqueness
Tangibles on assets	0.2222	0.7639	0.0179	0.2772	0.29
Intangibles on assets	0.1797	-0.8197	0.0286	0.1609	0.269
Leverage	-0.8509	0.024	0.0253	0.006	0.2746
Tobin's q	-0.0043	0.0278	-0.0141	0.9269	0.1398
Self-financing	0.8523	0.0239	0.0325	0.0042	0.2719

Dividend yield	0.0976	0.2438	-0.7411	-0.2256	0.3309
Longevity	0.0984	0.1987	0.762	-0.2354	0.3147

Table 9 shows the same analysis for the year 2017 and confirms the existence of four factors to explain the variability in the data. The corresponding rotation of factor loadings is presented in Table 10. Compared to 2019, three of the four factors are confirmed; longevity does not appear relevant while the dividend yield takes precedence in factor 4.

Table 9. Factor Analysis. Method: principal-component factors. Obs.: 153. Year: 2017. Selected factors: 4.

Factors	Eigenvalue	Difference	Proportion	Cumulative
Factor 1	1.55369	0.16785	0.222	0.222
Factor 2	1.38584	0.31247	0.198	0.4199
Factor 3	1.07337	0.05058	0.1533	0.5733
Factor 4	1.02278	0.18255	0.1461	0.7194
Factor 5	0.84024	0.20526	0.12	0.8394
Factor 6	0.63498	0.14588	0.0907	0.9301
Factor 7	0.4891	.	0.0699	1

LR test: independent vs. saturated: $\chi^2(21) = 73.36$ Prob> $\chi^2 = 0.0000$

Table 10. Rotated factor loadings (pattern matrix) and unique variances. Year 2017.

Variables	Factor 1	Factor 2	Factor 3	Factor 4	Uniqueness
Tangibles on assets	0.1427	0.7834	0.2285	0.0284	0.3129
Intangibles on assets	0.1405	-0.7784	0.1745	0.0091	0.3437
Leverage	-0.8512	0.1162	0.0075	-0.0293	0.2611
Tobin's q	0.0114	0.0282	0.9272	-0.0001	0.1395
Self-financing	0.8516	0.1291	0.0236	-0.0252	0.257
Dividend yield	0.1069	0.284	-0.2251	0.7344	0.3179
Longevity	0.1104	0.2825	-0.2537	-0.7151	0.3323

In the complexity of the representation of business variables it is clear that some of them explain better than others the variability of the company's behavior and that therefore they can be considered possible determinants of value generation. Factor analysis, therefore, suggests which variables are most likely to contribute to explaining different business approaches and at the same time give us latent factors that can be used for inferential analysis. We rename the four factors for 2019 according to the prevalence of variables as follows: financing choices (factor 1), tangible means of production (factor 2), longevity (factor 3), unrecorded intangibles (factor 4). For 2017, we replace longevity with the dividend distribution strategy.

It is interesting to note that, pushing the analysis back to 2015, there is a significant change in the representativeness of the variables and, therefore, of the strategic resources of value that best represent business behavior. The results of the factor analysis for 2015, shown in the following Tables 11 and 12, show that three factors characterize and differentiate our companies: financing choices (Factor 1), tangible means of production (Factor 2) and longevity (Factor 3)." These characteristics recall, *latu sensu*, a traditional behavioral paradigm, typical of the company of the second mature industrial

revolution or, perhaps more properly, a different phase that the companies of the New Economy have gone through with respect to the relationship with the financial markets. International markets, in fact, were still affected in 2015 by the turbulence following the sovereign debt crisis that in Europe since 2010 has affected several countries in the peripheral area of Europe (Greece, Ireland and Portugal) and has aggravated the already uncertain recovery close to the 2008-2009 financial crisis, Valiante (2016).

Table 11. Factor Analysis. Method: principal-component factors. Obs.: 156. Year: 2015. Selected factors: 3.

Factors	Eigenvalue	Difference	Proportion	Cumulative
Factor 1	1.70594	0.33088	0.2437	0.2437
Factor 2	1.37505	0.27178	0.1964	0.4401
Factor 3	1.10327	0.11778	0.1576	0.5978
Factor 4	0.9855	0.19141	0.1408	0.7385
Factor 5	0.79409	0.07944	0.1134	0.852
Factor 6	0.71464	0.39313	0.1021	0.9541
Factor 7	0.32151	.	0.0459	1

LR test: independent vs. saturated: $\chi^2(21) = 116.91$ Prob> $\chi^2 = 0.0000$

Table 12. Rotated factor loadings (pattern matrix) and unique variances. Year 2015

Variables	Factor1	Factor2	Factor3	Uniqueness
Tangibles on assets	0.317	0.705	0.0133	0.4022
Intangibles on assets	0.0903	-0.714	0.0764	0.4762
Leverage	-0.8369	0.2463	-0.0445	0.2369
Tobin's q	0.0248	-0.1949	0.3156	0.8618
Self-financing	0.9071	-0.0911	-0.0585	0.1654
Dividend yield	0.2198	0.4729	0.5722	0.4007
Longevity	0.158	0.1941	-0.8153	0.2726

In the next paragraph, the latent variables in each of the years analyzed are correlated with two different measures of value, the market capitalization and the deviation of the company's ROE from the average ROE of the sector, in each year.

Testing the Effectiveness of Business Model: a Comparison Between Value Relevance and Value Capturing

What defines the economic sustainability over time of a Business Model? From the theoretical point of view, in chapters 1 and 2 it was highlighted how different measures of value emerge from time to time depending on the role assigned to the company and the financial statements and the relevance that stakeholders have in theoretical constructs. In this paragraph we use two measures of value that reflect the market valuation of the enterprise (market capitalization) and its ability to generate return relative to the market average. Consistent with the theoretical motivations expressed at the beginning of this chapter, market capitalization can be understood as a proxy of the value creation perceived by the market and the return on equity, here intense as a deviation from the average of the sector to which it belongs, as a proxy of value capturing in company balance sheets.

Market Capitalization does not pose defining problems and its characteristics over time and by sector have already been presented in section 5.3. On the other hand, the ability to capture value can be expressed as the ability of an enterprise to remunerate equity capital in relation to the average return on equity in its sector. Therefore, our second measure of value is defined for the i -th company by the following difference:

$$ROE_i - ROE_{Medium_{sector}} \text{ (equation 1)}$$

Considering the results of factor analysis in this paragraph the following equation will be estimated:

$$VCREA_i = a + b_1 * FL_{1i} + b_2 * FL_{2i} + b_3 * FL_{3i} + b_4 * FL_{4i} + d * S' + c * C' + \varepsilon_i$$

Where $VCREA_i$ it represents the value creation of the i -th company, measured by stock market capitalization; FL represent the latent factors identified in the analysis of the previous paragraph and represent the S' and C' dummy sets of the subsectors and geographical areas to which the companies belong, respectively. The equation is estimated for the benchmark years 2019, 2017 and 2015.

For value capturing, the following equation will be similarly estimated:

$$VCAPT_i = a + b_1 * FL_{1i} + b_2 * FL_{2i} + b_3 * FL_{3i} + b_4 * FL_{4i} + d * S' + c * C' + \varepsilon_i$$

Where $VCAPT_i$ it represents the value capturing of the i -th enterprise measured by equation 1 and the other variables have the usual meaning.

Note that for 2015 the equation excludes FL_4 as it emerges from the corresponding factor analysis expressed in the previous paragraph. For the benefit of clarity of the exhibition, table 13 summarizes the name of the latent variables in each year.

Table 13. Summary of latent variables

	2019	2017	2015
Factor 1	Financing choices	Financing choices	Financing choices
Factor 2	Tangible means of production	Tangible means of production	Tangible means of production
Factor 3	Longevity	Intangibles unrecorded	Longevity
Factor 4	Intangibles unrecorded	Dividend distribution strategy	-

Tables 14 to 16 report the results of the estimates for 2019, 2017 and 2015, recalling that we have conveniently renamed the factors based on the prevalence of the variables within them and pointing out that columns 2 and 4 of each table report the specifications of the relationships based on the fixed effects by subsector and by geographical area of belonging.

Table 14. Correlation between Business Model and measures of value. Year 2019

Variables	Value Creation		Value Capturing	
	(1)	(2)	(3)	(4)
Financing choices	0.2920*** (0.0815)	0.3140** (0.1224)	-0.3621*** (0.1181)	-0.4532*** (0.1697)
Tangible means of production	0.0715 (0.1912)	0.0793 (0.2016)	0.0422** (0.0166)	0.0378* (0.0215)
Intangibles unrecorded	0.5004** (0.2060)	0.5685** (0.2204)	-0.1379*** (0.0398)	-0.1563** (0.0648)
Longevity	0.5105*** (0.1852)	0.4467** (0.2228)	0.0023 (0.0164)	-0.0149 (0.0227)
Fixed sub-sector effects	/	YES	/	YES
Country fixed effects	/	YES	/	YES
Constant	4.6511*** (0.1958)	1.3785*** (0.5139)	0.1018*** (0.0180)	-0.0403 (0.1378)
Observations	153	153	87	87
R-squared	0.0953	0.4088	0.2439	0.3750

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 15. Correlation between Business Model and measures of value. Year 2017

Variables	Value Creation		Value Capturing	
	(1)	(2)	(3)	(4)
Financing choices	0.2461*** (0.0627)	0.2892*** (0.0606)	0.0410** (0.0164)	0.0371 (0.0228)
Tangible means of production	0.0509 (0.1623)	-0.0405 (0.1696)	0.0207 (0.0213)	0.0272 (0.0267)
Intangibles unrecorded	0.3890** (0.1553)	0.4474*** (0.1661)	-0.0824* (0.0472)	-0.1592** (0.0782)
Dividend distribution strategy	-0.5906*** (0.1647)	-0.5791** (0.2263)	0.0157 (0.0137)	0.0500 (0.0319)
Fixed sub-sector effects	/	YES	/	YES
Country fixed effects	/	YES	/	YES
Constant	5.2124*** (0.1815)	7.0236*** (1.2835)	0.0121 (0.0262)	-0.0343 (0.1088)
Observations	155	155	94	94
R-squared	0.1017	0.4556	0.0455	0.2504

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 16. Correlation between Business Model and measures of value. Year 2015

Variables	Value Creation		Value Capturing	
	(1)	(2)	(3)	(4)
Financing choices	0.4939*** (0.1543)	0.5238*** (0.1194)	0.3836** (0.1501)	0.4133** (0.1782)
Tangible means of production	-0.2849* (0.1683)	-0.2608 (0.1918)	-0.0016 (0.0263)	0.0025 (0.0417)
Longevity	0.3640 (0.2430)	0.2165 (0.2914)	0.0191 (0.0204)	0.0141 (0.0258)

Fixed sub-sector effects	/	YES	/	YES
Country fixed effects	/	YES	/	YES
Constant	4.7829*** (0.1770)	4.0102*** (0.6463)	-0.0769 (0.0512)	-0.0664 (0.1431)
Observations	156	156	84	84
R-squared	0.0872	0.4225	0.1395	0.4365

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

RESULTS

The above analysis allows you to make some considerations. It should be noted that the variables positively correlated with the factors themselves have been chosen as representative of the latent factors. This choice is dictated by the need to better interpret the results in an economic-business sense. In addition, the interpretation of the latent variable can also be addressed by variables largely correlated with the factor, but of negative sign.

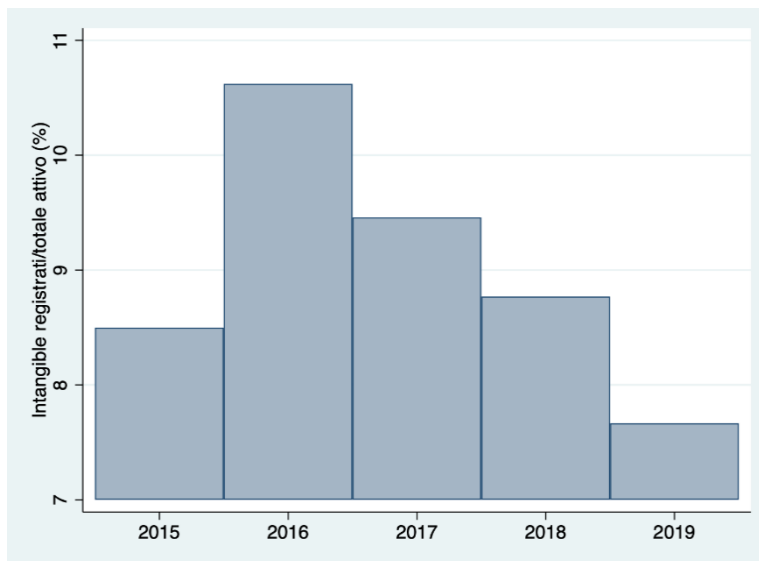
With regard to 2019, Factor 1 is understood as the "Financing Choices" of the variation of investments considered indispensable, without considering the increase in share capital as a form of recourse, therefore as an alternative choice between credit capital and self-financing. In this analysis, "Corporate Financing Choices" (Factor 1) have a positive and significant effect on market capitalization. Since this factor is identified with self-financing it can be statistically concluded that self-financing positively affects the market value of a company. It should be remembered, however, that this factor is also dominated by the financial leverage even if this correlates in a negative way with the factor. Therefore, Factor 1 can be interpreted even if it is concerned on the debt side as a financial choice. Leverage has a significant and negative effect on market capitalization, through the latter's positive relationship with the Factor. From an economic point of view, it can be said that Factor 1 represents alternative choices for financing business investments by companies. On the one hand, the choice to retain profits to self-finance investments awaiting realization; on the other, the choice to resort to indebtedness. In this sense, the market appreciates the ability of a company to retain self-financing, generating value also in this sense. According to Mazzucato and Shipman, in fact, value does not derive only from the activity of transforming production factors into finished products to be exchanged on the market, but also from activities of organization of the factors of production and from strategic choices made by management in terms of financial structure. This is also congruent with the hypothesis that the maintenance of the conditions of durability and cost-effectiveness of companies derives from the management of some variables that allow growth, understood as financial self-sufficiency (coverage of investments necessary for growth) without damaging the interests of the owners and maintaining the appreciation of the market. In the present case, the market appreciates a behavior aimed at reinvesting profits, much

more than the use of debt to finance investments, which still have to be carried out from a financial or economic point of view. This conclusion is consistent with the empirical literature cited in the paragraph dedicated to the selection of variables in terms of value relevance [Naceur et al. (2004)].

With reference to value capturing activities through financial statements, Factor 1 has a negative and significant effect on the deviation of the company's ROE from the market ROE. Its reading is therefore opposite to the correlation made on the market capitalization, with the consequence that leverage positively influences the differential of the company's ROE, while self-financing depresses it. In reality, we are talking about the differential of the company's ROE compared to that of the sector. This means that movements in self-financing and leverage realign or move corporate ROE away from industry ROE. They act only on the variable of the company's ROE. An increase in self-financing to finance the total change in investments made and which are not yet realized in the form of net results (they will be in the future) increases the value of equity which mechanically reduces the ratio. The relationship is then mediated by the instantaneous effect. Symmetrical speech is made for indebtedness, with the conclusion that the deviation of the company's ROE compared to the average ROE of the sector to which it belongs is strongly affected by the time lag due to investments made in the past and their realization

Factor 2, "Tangible means of production" is identified by instrumental material investments, positively correlated with it. But, as described in the factor analysis, the factor is also represented by intangible investments recorded to it that are also negatively correlated. The factor, therefore, can be interpreted in its dual meaning. Factor 2 has no effect on market capitalization, whether it is concerned on the side of tangible or intangible investments, while it exerts a positive and significant sign with respect to the deviation of ROE from the market. The result can be read in the sense that the intangible values present in the financial statements have a negative effect on the business result compared to the market ROE. This means that intangibles on the balance sheet are often not treated as productive investments. According to accounting practices, they entail more operating costs than the related benefits (due, not only to the neglected practice of revaluations of intangibles, a practice that, although admitted, is poorly practiced, but also to the practices of exorbitant depreciation of the related expenses, since goods of limited use in time) [Mazzucato et al. (2014)]. In addition, they are not able to explain the value created on the market since the factor does not matter for the company's value creation activity. This may be due to the low value of intangibles compared to the total business investments, evidently as a consequence of the choice not to capitalize on these costs but to spend them in the income statement. The trend of intangibles recorded within our sample confirms, as shown in Figure 2, that these are significantly reduced starting from 2016.

Figure 2. Average trend of recorded intangibles.



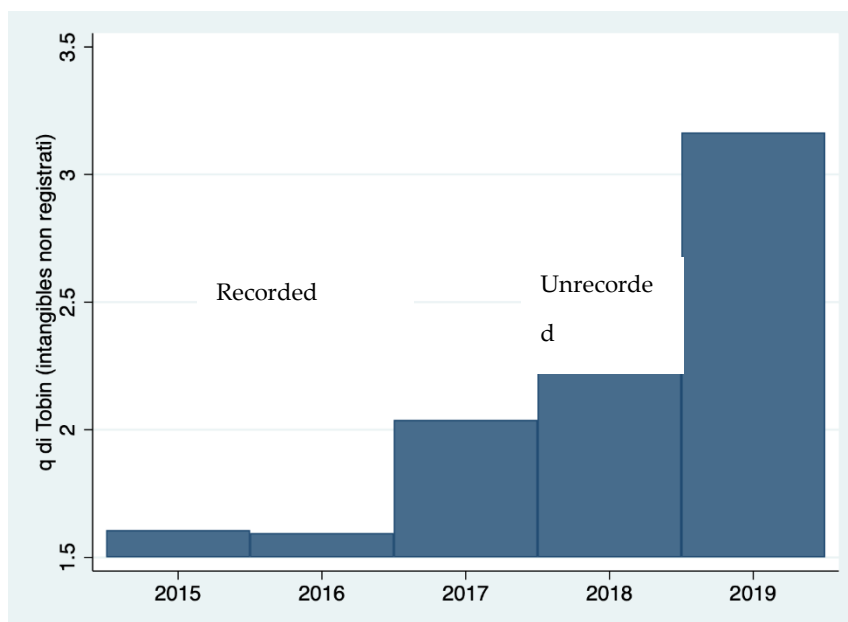
This accounting practice is confirmed by the results although part of the empirical literature on the subject suggests a different accounting behavior than the balance sheet intangibles (capitalization instead of operating cost) both in terms of captured value and in terms of income forecasting [Tsoligkas et al. (2011)].

Factor 3 is represented by the "Longevity" (years of life of the company). It has a positive and significant effect on the stock market capitalization, but not on the value capturing activity. Secondo Arrow (1962) and Jovanovic et al. (1989) the older companies, even if in an innovative sector, are those that have first innovated and for this reason they are those that have implemented learning by doing and knowledge accumulation mechanisms that allow survival and durability under conditions of greater economy or efficiency. In this analysis, therefore, Factor 3 can be a good approximation of the knowledge inherent in the organization, which is, of the organizational learning skills of the company and adaptation of the Business Models. In the results obtained, the market perceives longevity as value relevant, that is, as a strategic lever that the company has available to generate value through internal growth while the company balance sheets do not capture it, thus revealing a discrepancy between the resources available and the detection tools, limited accounting [D'Autume (1993)].

It is with reference to the representative factor of the "Unrecorded Intangibles" (Factor 4) that this analysis provides more interesting results in the opinion of the writer. The most relevant variable within the factor is the Tobin's q. This, as demonstrated in the literature, is a mixed measure (accounting and market) that compensates for the shortcomings of the balance sheet in terms of value capturing. In fact, in Peters and Taylor's hypothesis that Tobin's q represents the unrecorded intangibles and if one considers the balance fully capable of representing the results of these latent activities, then Tobin's q would be neither relevant nor capturing, both from a value creation point of view and from a value capture point of view. In contrast, unrecorded intangibles are broadly and

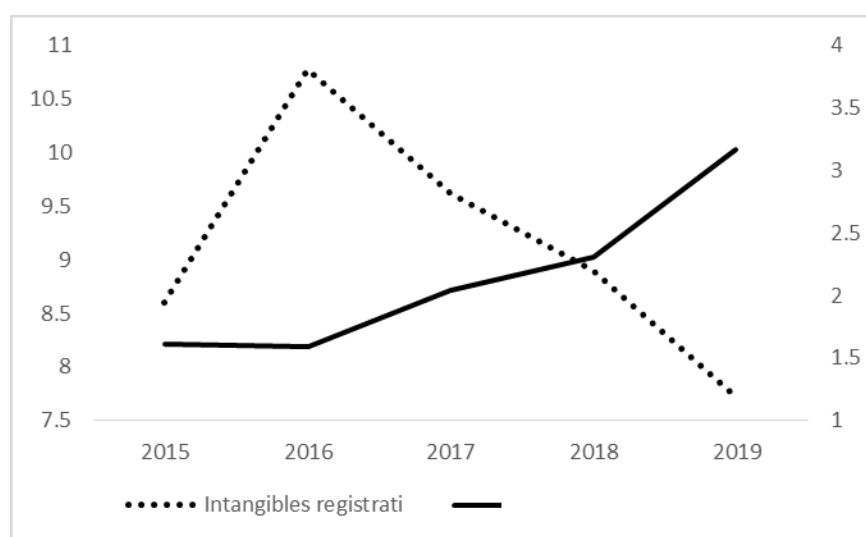
positively correlated with market capitalization and negatively correlated with deviations in return on equity compared to that of the sector. The mass of value generated and perceived by the market does not translate into corresponding income streams.

Figure 3. Trend of the average Tobin's q in the sector over time



This is all the more true if we consider that even the intangibles recorded pose difficulties in their representation, both in the income statement (non-association with the deriving revenues), and in the balance sheet (failure to recognize activities instrumental to production). The extent of unregistered intangibles can be seen from Figure 3 which shows an increase starting from 2017, to be read together with the decrease in intangibles recorded as emerges from Figure 4.

Figure 4. Relationship between the average of recorded and unrecorded intangibles over time



In addition, the balance sheet would not seize opportunities compared to the accumulation of intangibles in the past and, consequently, does not reflect future opportunities in the income statement.

If intangibles were capitalized and properly evaluated, investments capable of generating outputs to be placed on the market capable of generating income would be recognized. The result would be a reduction in the Tobin's q which, currently, however, is still in determinant in explaining the mismatch between value creation and value capturing.

The results for 2017 amply confirm what emerges from the 2019 analysis. From a point of view of the company's economic interpretation, the behaviors with respect to the choices of financing, with respect to the choice of the means of production to be used and with respect to the relevance of the intangibles not registered for the market are confirmed.

For 2017, the relevance of Factor 4 "Dividend distribution strategy", here understood as a company policy on dividends, is highlighted. As the dividend yield per share price increases, the market capitalization is reduced while this variable does not affect the company's result in terms of deviation of the company's ROE from the ROE of the sector. This factor can be understood as a proxy of managerial strategies that use the dividend as a lever of attractiveness on the markets (offering higher returns to find sources of financing from the outside and to mitigate the related contractual costs). But it is not certain that these policies are reflected in market values, also because a company that declares itself profitable must have enough money to remunerate shareholders. In fact, an increase in dividend yield can result from a reduction in the unit price per share and thus signal that the company is undervalued by the market and therefore attractive to the investor. But an undervalued price can mean either a lack of appreciation by the market of the company's potential, an unlikely hypothesis if we assume that the market is efficient, or a real perception of poor performance. In this case we observe a negative relationship, also in line with a part of the literature that considers dividend policy a signalling tool used by managers only for companies with small capitalization [Naceur et al. (2004)]. In this case, the report suggests that management must pay attention to dividend distribution policies, as an increase in dividend distribution is not necessarily perceived by the markets as value relevant (also because the market is interested in other measures such as stability in dividend distribution). In addition, inappropriate distribution strategies (e.g., in place of missed investment opportunities) are immediately detected by the market before they even manifest themselves in the form of a poor return on equity. In fact, the results confirm that this variable is not significantly correlated with traditional measures of economic performance of value capturing.

The scenario changes in 2015. The particular economic condition, a long wave of the European sovereign debt crisis, had influenced the activity of the markets undermining their reactive ability to incorporate the company's future income prospects. In the results, not only the latent factors have reduced numerically but also there are no significant effects of these variables in terms of value creation and value capturing. Only the financing choices are relevant precisely in a phase of tension on

interest rates loosened only by the extraordinary intervention of the ECB. And in fact, the market appears to reward companies that use internal resources for expansion projects instead of leverage. At this stage there was still evidently no excessive gap between market quantities and budgetary quantities in the creation and capture of value. Therefore, the two activities of value creation and value capturing were aligned. It would therefore be necessary to investigate more deeply the reasons for the 2015 results that could perhaps derive from the fact that companies were still in a phase of accumulation of invisible strategic factors, or that the market still did not know them, or that the market was still affected by the difficulties in the movement of capital following the debt crisis that still in 2015 it prompted international policy authorities to question issues that have not yet been resolved.

PRELIMINARY CONCLUSIONS ON THE BUSINESS MODEL

The Business Model has been defined theoretically as the complex of activities, resources and processes that the company puts in place to achieve its value proposition. The latter consists of value creation, value capturing and value delivering activities. If you look at it from an economic and financial point of view, value creation and value capturing prevail, since value delivering is nothing more than the result of the distribution of value among all stakeholders with the exclusion of shareholders. For the latter, what matters is the maximization of their value understood as a share value that must be reflected in the company's ability to grasp this value and transform it into profit and performance. Indeed, it is established that the primary information base of the market to predict future performance is the financial statements. Therefore, balance sheet data is endowed with significant information capacity for investors and stakeholders in general. The information set that comes from the financial statements has expanded through the integration of mandatory and voluntary non-financial information. The ability of non-financial reporting on the Business Model (Business Model Disclosure) has received wide consideration in the economic-corporate literature, precisely because of the difficulties of grasping the quantitative aspects of the Business Model through the financial data of the financial statements.

The present research adopts the latter point of view, i.e., it has set out to analyze the economic-business dimension of the Business Model, looking at the balance sheet quantities and recovering a traditional perspective that assigns to the financial data of the balance sheet a crucial role in explaining the mechanisms of value generation. On closer inspection, budget variables offer the possibility of profiling the company's financing strategies when considering the right composition between self-financing and external leverage. At the same time, these variables make it possible to identify the policy of distribution or retention of profits that inform both about self-financing but also about the company's ability to remunerate shareholders appropriately. Finally, they make it possible to detect

the chosen combination of the means of production between tangible and non-tangible goods that reflect the current technological constraints and in the same way the tension to identify the right composition of the desired capital for the growth of the enterprise. This combination becomes even more relevant in the presence of radical technological changes such as those associated with the spread of the ICT revolution preceded by a long process of accumulation of knowledge. This process of learning and accumulation of knowledge has changed the composition of the factors of production, shifting them towards immaterial quantities and, on the other hand, amplifying the translation of the new composition of the means of production into captured value.

In this new context, how much is the balance sheet capable of capturing the value generated by intangible quantities and accumulated previously? What is the relationship between markets and the balance sheet in the new context of the ICT revolution? How do I align value capturing and value creation?

The results presented in the previous paragraph provide some possible food for thought with respect to the questions posed in line with the most recent literature on the value relevance of intangibles with particular reference to those not accounted for, in the light of the most recent considerations in terms of signage of balance sheet quantities (accounting figures) [Criekingen et al. (2021)].

The empirical analysis, conducted on a sample of 156 Listed European companies active in the Technology Equipment sector, observed from 2015 to 2019, shows a significant difference in balance sheet variables in explaining the market value of the company and its ability to remunerate equity through the balance sheet results. Traditional variables, such as registered tangible and intangible assets, leverage and self-financing contribute in various ways in explaining the dual aspect of value, as indeed in the literature on the subject.

The most interesting aspect emerges from the contribution of intangible assets recorded in the balance sheet which surprisingly do not show any relevance for the purposes of value, however it is understood (market performance or economic performance). It can be considered in line with recent developments in the economic-financial literature that this behavior derives from the different accounting treatments to which they may be subjected and also from the difficult process of recognition in the balance sheet, that is, capitalization. These goods are often not treated as investments, but as intermediate factors of production, and therefore as production costs. If recognized as investments, the delay in their recognition does not reap the benefits produced in the phases prior to the capitalization itself. Furthermore, the fact that in many cases they are not revalued (while they are often subject to devaluation) produces the same effect of failure to detect the growth opportunities generated internally and does not produce positive economic effects. Moreover, even when revalued, being deeply connected to the company (they descend from research activities) and difficult to

separate (since they are generated internally), they are generally detected at a use value that is not a pure market value. Finally, their short depreciation shortens the time horizon along which it is reasonable to predict their return. These effects derive from the riskiness associated with research and development processes in terms of variability of results compared to those expected which is controlled through condom and prudent accounting mechanisms. On this topic, future research could help to clarify the reasons or situations in which intangibles may be underestimated.

To further comfort, and in line with the literature that agrees on the existence of latent variables that are value relevant, other firm-specific variables have been added. The first is the longevity of the enterprise which can be an acceptable approximation of organizational learning capacity. It is the implementation of the principle of going concern that derives from the ability of a company to enter and remain competitive in a market. In the strategic perspective of Resources Based Theory, longevity can explain the phenomenon of learning by doing of the company [Chandler (1990)].

The second is a quantity that combines balance sheet and market information, Tobin's q , used to explain the impact on the value of unaccounted intangibles. The same quantity also identifies the replacement cost value that in the most recent literature is being studied as an accounting evaluation criterion (in the literature on accounting choices) that would reflect the company's Business Model [Lassini et al. (2016)]. Unrecorded intangibles show a high positive correlation with stock market capitalization but not with measures of economic performance even when taking into account the temporal discrepancy mentioned above regarding intangibles. Moreover, compared to its relationship with the average trend over time of the intangibles recorded, there is a specular trend where the reduction in the value of the intangibles corresponds to an increase in the Tobin's q for the companies of the New Economy. The justification for this disconnects that has been represented in Figure 4 of the comment paragraph on the results should be understood. The trend of intangibles peaks in 2016 and then decreases, while at the same time Tobin's q grows. It is not possible to explain the phenomenon in a conclusive way, but the results can provide some food for thought, for example on the process of accumulation of recorded intangible values (which does not have immediate effects on the income statement), on the adequacy of the accounting criteria for recognition and subsequent evaluation in the financial statements and on the ways in which to enhance the quality characteristics of a useful balance sheet for users (relevance and representation faithful), on the conceptual foundations that guide the elaboration of accounting regulations.

From an accounting point of view, the mismatch is therefore not only due to the subsequent recognition of revenues with respect to the costs generated by the intangibles recorded, but to some intangible variables that remain latent and not represented in the effects they produce on the balance sheet. For this reason, in line with the literature on the subject of unregistered intangibles, they should

be substantiated in some way, given that the financial statements and financial data represented do not allow this type of disclosure to be appreciated. The adoption of international accounting standards and the increasing use of market values with respect to past transactions is clear that they have had a mitigating effect of these misalignments, but the issue is not yet resolved, especially for the purposes of the effectiveness of the methodologies of company valuation and value appreciation based on the flow quantities (income approach) with respect to the capital quantities (balance sheet approach or capital maintenance approach), recognize a limitation of the current balance sheet models based on the income approach, resulting from the weak application of the fundamental principles of double entry, i.e. the principle of recognition of revenues and correlation with the costs obtained (matching principle) [Garg et al. (2007)], [Garg (2017)], [Dichev et al. (2007)]. According to the authors, a balance sheet model suitable to reflect the Business Model of the company should be based on two fundamental pillars of accounting which are the principle of cost-income correlation and the mechanism of recognition of revenues by a company. This is particularly important for balance sheet operational investments, other than financial assets intended for trading and immediately liquidable in the market for which fair value is clearly available. For operating items (tangible and non-tangible), a realignment of accounting to operational use value is required.

The creation of value is based on the company's economic results, for this reason the accounting rules must extend to the function of the objective of communicating the processes and the generation of value to the outside, in particular through the financial data of the balance sheet. Accounting should therefore align with economic reality. Accounting rules should also be based on a clear definition of this cornerstone principle (overriding) and therefore also on the valuation criteria, not just how the data are represented. While the recognition of revenues seems relatively simpler to apply, at least in theory, the principle of correlation, on the other hand, is thornier and produces considerable problems of interpretation because it concerns the allocation of costs (there are many expenses incurred for the recognition of activities and it is difficult to trace these costs back to specific revenues or periods). However, by affirming the primacy of these two principles, it is clear, according to the authors, the general direction towards which progress should be made. A performance function should be packaged for each specific revenue balance sheet item with respect to the relative costs. The balance sheet result would therefore reflect managerial efforts to map the economic link between the company's expenses and revenues and translate this link into revenues and costs.

However, according to Dichev and Penman, the Conceptual Frameworks of the IASB and FASB do not consider the principle of correlation as the foundation of the correct representation externally, while affirming other fundamental requirements of the information in terms of relevance, faithful representation, comparability and relevance. The same conclusion is reached by Barth (2014) according

to which it is necessary to question the ways in which to strengthen the usefulness of financial statements.

The present work, although not conclusive, contributes to strengthening empirical observations on the issue of the effectiveness of the Business Model. From a managerial point of view, it can be of help to identify the strategic variables for the creation of value of companies and its management control. From an accounting point of view, he suggests looking at the Business Model as a goal that accounting should look at to improve the quality of financial statements. This would lead to a review of the methods of recognition of profits deriving from activities generated internally but difficult to detect and, consequently, to reconsider the balance sheet quantities and their consistencies in values (historical cost, fair value, replacement cost, reproduction cost, etc.) in order to a more complete appreciation of the value generated by companies. From the point of view of the quality of reporting, the present contribution, in line with authoritative empirical doctrine [Mechelli et al. (2017)], supports the idea that financial statements should be supplemented with appropriate non-financial disclosure that explicates the levers of value and links them to business results.

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LINKS BETWEEN BUSINESS PROCESS MANAGEMENT CAPABILITIES, ROBOTIC PROCESS AUTOMATION, AND ORGANISATION PERFORMANCE: A THEORETICAL MODEL

Stravinskienė, Inga; Serafinas, Dalius; Ruželė, Darius

Faculty of Economics and Business Administration, Vilnius University, Vilnius, Lithuania

ABSTRACT

There is a lack of understanding of how organisations implement Industry 4.0 technologies. The discipline of Business Process Management (further BPM) is essential for the successful management of an organisation in this age of digitalisation. BPM capabilities are becoming a cornerstone in developing organisation performance. Regarding BPM capabilities, the automation of organisational processes is actualised. Robotic process automation (further RPA) is one of the key elements of Industry 4.0. The key issue for an organisation adopting robotic technologies is the value they generate for the organisation. The study aims to develop and present a conceptual, theoretical model of the links between the BPM capabilities, RPA, and organisation performance. The research methods include a literature review and a critical analysis of the scientific sources on the issue. This study has identified potential links between BPM capabilities, application of RPA, compliance with RPA-relative process characteristics, and organisation performance based on scientific literature. Based on the above analysis, the conceptual, theoretical model was developed. The contribution and the originality of the study is that this topic is very fragmentarily researched. This study contributes to the field of BPM research by exploring the links between BPM capabilities, the value of RPA generated for the organisation, and the compliance with the characteristics of RPA-relevant processes. The result of this study will benefit organisations seeking to enhance the value generated by their business processes in the context of organisation performance by introducing and developing RPA.

Keywords: Business process management, Business process management capabilities, Robotic process automation, Organisation performance.

INTRODUCTION

The aim of this study is to develop and present a conceptual, theoretical model of the links between BPM capabilities, RPA, and organisation performance based on scientific literature. Objectives of the study are: 1) to define the concepts of BPM capabilities and the concept of RPA

(adoption of RPA technology and compliance of RPA-relevant process characteristics); 2) identify the values of RPA for an organisation based on organisation performance; 3) to present a conceptual model of the links between BPM capabilities, RPA, and organisation performance. In the context of the Industry 4.0, organisations are increasingly turning to digital technologies to gain and maintain agility, innovation, compliance with the changing needs of society, and speed. *Digital transformation* leads to creating new sectors (e.g., data science), reshaping the business models, processes, and organisational structures of organisations. It preconditions fundamental changes in the working environment, enabling new working methods (Karacay, 2018; Brocke *et al.*, 2018; Papageorgiou, 2018; Thomas, 2020; Antonucci *et al.*, 2021). *Digital transformation* is seen as a cognitive process, applying technology to radically improve organisation performance and success (Ubiparipović *et al.*, 2020), as managers need to anticipate new ways to improve competitiveness, and employees at all levels of the organisation need to make sense of digital technologies (Volberda *et al.*, 2021). Technology no longer plays a supporting role; it replaces manual work (Anagnoste, 2017; Siderska, 2020). The COVID-19 pandemic has disrupted the operations of all organisations, shifting the focus on the development of IT technologies in the management context even greater. Organisations had to ensure the implementation of their business processes. Sustainable business continuity became one of the top priorities (Siderska, 2020; Siderska, 2021).

However, there is a lack of understanding of how organisations apply the fourth industrial revolution technologies (Frank *et al.*, 2019). Despite the rapid wave of adoption of new technologies, the planned success of organisations is not always guaranteed (Brocke *et al.*, 2018). On the one hand, organisations aim to improve efficiency and customers' satisfaction by digitising processes; on the other hand, this is often hampered by the lack of expertise and financial resources available to organisations (Ubiparipović *et al.*, 2020). A digital organisation requires understanding how business models can be implemented and how digitalisation changes the way organisations are managed (Legner *et al.*, 2017). In the context of digitalisation, BPM is taking on a new mission (Vial, 2019; Harmon, 2019; Scheer, 2019) and is in the spotlight (Pereira *et al.*, 2019). Organisations are increasingly interested in the concept of the *process-focused organisation* (Szelagowski and Berniak-Woźny, 2020), as more and more focus is being placed on the digitalisation of activities and business processes (Giudice, 2016; Kirchmer, 2017; Siderska, 2020). This is based on the fact that, in this age of digitalisation, the discipline of BPM is essential for the successful management of an organisation (Shukla *et al.*, 2017). Hence, the BPM capabilities at the institutional level become one of the cornerstone aspects.

The digital age drives organisations to invest more in value creation (Wanner *et al.*, 2019). In 2018, the world faced a digital renaissance in IT. Three technologies have been identified as suitable to

change and improve business processes: Robotic Process Automation, Artificial Intelligence, and Blockchain (Papageorgiou, 2018; Tripathi, 2018; Hartley and Sawaya, 2019). One of the most important, fastest emerging, and newest concepts in business process automation is RPA (Siderska, 2020), a highly influential digital transformation tool (Fernandez and Aman, 2021). RPA enables the automation of repetitive business processes. However, measuring the value that an RPA solution generates for an organisation is a topic lacking research. There is a shortage of scientific literature on the impact, benefits or value of an automated RPA process to the business (Wellmann *et al.*, 2020; Sved *et al.*, 2020); RPA practices and activities to create value for stakeholders (Ratia *et al.*, 2018), and the correlation between the characteristics of the processes relevant for RPA and its success (Santos *et al.*, 2020). Thus, this topic requires more in-depth research, especially empirical studies of a quantitative nature (Siderska, 2021). To sum up, it can be stated that there are no published research papers on the links between BPM capabilities, the application of RPA, compliance with the characteristics of RPA-relevant processes, and organisation performance. To date, there is a lack of quantitative empirical research to identify and(or) validate the impact of BPM capabilities on the successful application of RPA and its impact on organisation performance. This area of research is particularly relevant in the current era of digital transformation.

The research methods include a literature review and a critical analysis of the scientific sources on the issue. The synthesis method was used to investigate and formulate the BPM capabilities, the adoption of RPA technology and the organization performance.

THEORETICAL BACKGROUND

Business Process Management Capabilities

Processes, which are nowadays increasingly important in the context of digital innovation (Van Looy, 2021), are an arterial system in organisations and inter-organisational supply networks (Dumas *et al.*, 2018) and a strategic asset for organisations (McCormack and Johnson, 2001). BPM is perceived as a mature management discipline that leads to the success of organisations through efficient and effective processes (Kerpedzhiev *et al.*, 2021). Contemporary BPM research is not only concerned with methods, procedures, and tools for modelling or managing processes but also focuses on the assessment and improvement of BPM capabilities within an organisation (Niehaves *et al.*, 2014).

In addition to lifecycle models, BPM is generally structured through capability frameworks, which describe and accumulate capability areas relevant to orientation processes in organisations. The logic of these capabilities is that the institutionalised BPM capabilities enable effective and efficient business processes, which in turn leads to the success of the organisation (Kerpedzhiev *et al.*, 2021). Capability domains are perceived as the sets of related abilities that need to be assessed and

improved to achieve business/process excellence and competence. Capabilities are otherwise considered critical (essential) success factors or simply factors (Rosemann and De Bruin, 2005; Van Looy *et al.*, 2012; Van Looy *et al.*, 2014b; Van Looy and Devos, 2019). Processes focus more on “how”, i.e., how work gets done in the organisation, while capabilities focus on “what”. In a business context, *capability* refers to *what* an organisation is capable of doing, while process describes the content of the expression of those capabilities. Capability does not describe how an organisation does things. It states that the organisation can generate a relevant outcome if the right process is followed (Harmon, 2019; Kerpedzhiev *et al.*, 2021). Thus, a *capability* is the ability to generate an outcome (Harmon, 2019), the competence (e.g., knowledge and skills) to achieve the anticipated outcomes through certain processes or process areas (Van Looy *et al.*, 2011).

Capability models are usually referred to as BPM maturity models (Van Looy *et al.*, 2014b). Many BPM maturity models are receiving increasing attention (Szelagowski and Berniak-Woźny, 2020). Although such models are suitable tools for organisations to manage their processes, which is why they are so popular, most of them are criticised for their substantiation, validity, and(or) of the scope of capability (Van Looy, 2020). Mature models that include BPM capabilities become outdated due to changing conditions, technological advances or new scientific insights. They need to be regularly validated with relevant research (Becker *et al.*, 2009). Over the last two decades, researchers and practitioners in the field of BPM proposed dozens of maturity models of varying breadth and depth. Some of the most popular ones are Process Performance Index (PPI), Business Process Maturity Model, BPM Maturity Model (BPMM), Process and Enterprise Maturity Model (PEMM), Process Maturity Ladder, Business Process Maturity Model, BPO Maturity Model (BPOMM), and Business Process Maturity Model (OMG) (Szelagowski and Berniak-Woźny, 2020).

The literature review suggests that many BPM capability frameworks have been proposed in the context of maturity models. However, they differ in their comprehensiveness, scientific validity, and presentation of the measurement instrument. The pragmatic framework is included in Hammer’s (2007) process and organisation maturity model. A comprehensive and widely used capability framework suggested by academics, used by the researchers in this study, is Bruin and Rosemann’s (2007) model, which includes 30 capability domains structured around six so-called core BPM elements (Kerpedzhiev *et al.*, 2021). Hammer (2007) takes a different approach, assessing capability areas for both individual processes and the whole process portfolio. Although these sources provide insight into the BPM dimensions, they also cause confusion in the comparability of the models, etc. (Van Looy, 2020).

In contrast, Van Looy’s (2020) multilevel BPM capability model as a tool to measure the level of the BPM maturity includes capability dimensions mentioned by other BPM maturity models. It

includes 4 core capability areas (*Lifecycle, Management, Culture, Structure*), 13 sub-domains, and 62 units of measurement to properly manage business processes and provides a validated instrument for measuring BPM capabilities (Van Looy, 2020). Considering its comprehensiveness, novelty, and scientific validity, this model is highly attractive and useful for further research. For this reason, to assess the BPM capability, this paper will use Van Looy's BPM Capability Measurement (2020) Construct.

RPA: Adoption of RPA Technology and Compliance of RPA-Relevant Process Characteristics

Robots were improved in manufacturing to help organisations stay competitive. As technology became more advanced, another robot type emerged, i.e., virtual robots. These robots have become particularly prevalent in the service sector (Stople *et al.*, 2017). RPA also falls into this category. From a narrower perspective, RPA is a rapidly evolving software for developing software robots. A broader perspective treats RPA as an organisational and technological change leading to the emergence of hybrid working environments, where humans and robots cooperate (Sobczak, 2019). RPA is characterised by its dual nature as a process and a technology/system (Saukkonen *et al.*, 2020).

RPA technology is defined as a mature technology (Gadre *et al.*, 2017; Anagnoste, 2018). It can be treated as a *virtual, digital workforce*, a bridge between manual processes and full automation, i.e., a virtual workforce of robotic employees working alongside human staff to achieve greater efficiency by eliminating almost all manual process activities and tasks. An RPA robot is a software robot or similar virtual assistant that is focused on human characteristics and replaces human actions in administrative activities (Lacity *et al.*, 2015; Alberth and Mattern, 2017; Šimek and Šperka, 2019; Siderska, 2020; Maček *et al.*, 2021; Choi *et al.*, 2021). RPA imitates human activities while running processes characterised by structured data and clear rules of action, leading to unambiguous outcomes. However, not all processes are suitable for RPA. They must be routine and standardised, and business rules must be clearly defined (Osmundsen *et al.*, 2019). In other words, a software robot is called a *digital worker* (Sobczak, 2021). However, the goal of RPA is not to reduce the number of employees. The focus is on eliminating manual tasks and allowing the whole organisation to focus on creating more added value (Papageorgiou, 2018). RPA can be applied in three cases: 1) where it performs small routine tasks; 2) where the RPA system takes over all tasks previously performed by employees; 3) where it empowers completely new workflows, which can be, e.g., part of new business models. New architectural elements (e.g., processes) may also be developed (Gunnar *et al.*, 2019).

RPA, as one of the key elements of the fourth industrial revolution, is thus a virtual software robot treated as a virtual workforce. This robot has all the human characteristics needed to perform structured, repetitive, rule-based process actions. It is a mature, light-IT-based technology that simulates human actions and is one of the first steps for an organisation to move towards smart

automation, towards digital transformation. In this paper the assessment of the adoption of RPA technology is based on Gunnar's et al. RPA adoption measurement (2019).

One of the key challenges is identifying the processes relevant for RPA. To achieve benefits for business, it is important for an organisation to select *relevant* processes, those with the highest potential for automation (Leopold, 2018; Zhang, 2018; Wanner *et al.*, 2019; Wellmann, 2020; Santos *et al.*, 2020; Marciniak and Stanisławski, 2021). The architecture of processes in organisations differs (process implementation time, frequency, stakeholders' involvement, etc.), so selecting processes requires careful analysis and informed decision-making. Organisations need to have a comprehensive understanding of their processes to ensure sufficient value for money and the overall success of the RPA initiatives (Wanner *et al.*, 2019). Unfortunately, many organisations do not pay enough attention to this, which, ultimately, leads to wrong processes being automated or the right processes not being automated properly (Gadre *et al.*, 2017). If the wrong process is selected for automation, it can have a huge impact on the performance of the organisation (Zhang and Liu, 2019). However, it is often not clear to the organisation how to select processes relevant to RPA (Syed *et al.*, 2020).

Based on scientific literature, five characteristics of candidate processes relevant for RPA can be identified (see Table 1). Process standardisation is needed so that there are not too many variations, results, exceptions; there are no subjective judgements or only a few of them; the process is rule-based. Tasks in a standardised process are defined as routine, simple, and monotonous. The process must also be *mature*, as it will then be easily measurable, formalised (documented), and stable. Outcomes and costs in a mature process will be more predictable. Mature procedures are less likely to encounter exceptions and require less human intervention (Huang and Vasarhelyi, 2019; Santos *et al.*, 2020). The process must have *high frequency*, i.e., it is characterised by repetitive process tasks with a high number of operations, secondary tasks, and frequent interaction between different systems or interfaces. Frequently recurring transactions are relevant to RPA due to their big capacity (number of recurrences), as they offer the possibility to reduce costs. If tasks are performed frequently, robots can fulfil them faster and with fewer errors. Time-intensive processes are also relevant to RPA. *The structurality and high quality of the digitised data* are emphasised as well. To manage tasks correctly and ensure data consistency, the data must be correct. Another important characteristic is *low cognitive demands and an inclination to make human errors*, as robots lack analytical and creative skills. Tasks with no or very limited human intervention and low cognitive demands are important to consider when assessing the specificity of robots' performance (Huang and Vasarhelyi, 2019; Santos *et al.*, 2020).

Characteristic	Sources
High level of process standardisation	(Fung, 2014; Deloitte, 2017; Bourgouin <i>et al.</i> , 2018; Zhang, 2018; Kirchmer and Franz, 2019; Wanner <i>et al.</i> , 2019; Wellmann <i>et al.</i> , 2020; Sved <i>et al.</i> , 2020; Maček, 2021; Huang and Vasarhelyi, 2019; Santos <i>et al.</i> , 2020; Figueiredo and Pinto, 2021)
High process maturity	(Leopold, 2018; Bourgouin <i>et al.</i> , 2018; Zhang, 2018; Huang and Vasarhelyi, 2019; Wellmann <i>et al.</i> , 2020; Sved <i>et al.</i> , 2020; Santos <i>et al.</i> , 2020; Maček, 2021; Figueiredo and Pinto, 2021)
High process execution frequency	(Fung, 2014; Deloitte, 2017; Bourgouin <i>et al.</i> , 2018; Huang and Vasarhelyi, 2019; Kirchmer and Franz, 2019; Wanner <i>et al.</i> , 2019; Sved <i>et al.</i> , 2020; Santos <i>et al.</i> , 2020; Choi <i>et al.</i> , 2021, Figueiredo and Pinto, 2021)
Well-structured, accessible, and high-quality data for performing processes	(Huang and Vasarhelyi, 2019; Kirchmer and Franz, 2019; Wellmann <i>et al.</i> , 2020; Sved <i>et al.</i> , 2020; Santos <i>et al.</i> , 2020; Maček, 2021)
Low demand of cognitive requirements and inclination to make human errors	(Fung, 2014; Deloitte, 2017; Bourgouin <i>et al.</i> , 2018; Wanner <i>et al.</i> , 2019; Wellmann <i>et al.</i> , 2020; Sved <i>et al.</i> , 2020; Santos <i>et al.</i> , 2020, Figueiredo and Pinto, 2021)

Table 1. *The structure of the characteristics of candidate processes relevant for RPA (personal elaboration)*

To assess the compliance of RPA-relevant process characteristics, this paper will use the characteristics detailed in Table 1.

Organisation Performance

The ultimate goal of digital business transformation is to add value to the organisation (Ubiparipović *et al.*, 2020). Organizational performance is a multidimensional construct that consists of the output of the organization as measured against indented output (Katou, 2022). Thus, the key issue for an organisation adopting robotic technologies is *the value they generate for the organisation*. The success of digitisation is measured in the perceived business value generated by the digitisation efforts of the organisation (Antonucci *et al.*, 2021).

Based on academic and other sources, the following values for the organisation generated by RPA can be identified: 1) reduction of human resources, redirecting them towards creating more value for the organisation; 2) reduction of financial and time resources (cycle time, etc.); 3) achievement of strategic goals; 4) improved quality of operations (assurance of reliability, improvement of compliance); 5) increase in revenue; 6) development of new products/services; 7)

innovation in management functioning (creation and development of new processes, working methods, positions); 8) increased satisfaction of internal users (employees' well-being, motivation); 9) increased satisfaction of external users (24-hour accessibility, absence of queues, etc.); 10) contribution to competitive advantage; 11) ensurance of the continuity of the organisation performance (Lacity *et al.*, 2015; Anagnoste, 2017; Rutaganda *et al.*, 2017; Fernandez and Aman, 2018; Tripathi, 2018; Papageorgiou, 2018; Ivančić *et al.*, 2019; Kokina and Blanchette, 2019; Šimek and Šperka, 2019; Schmitz *et al.*, 2019; Dey and Das, 2019; Osmundsen *et al.*, 2019; Zhang and Liu, 2019; Siderska, 2020; Antonucci *et al.*, 2021; Maček *et al.*, 2021, Choi *et al.*, 2021, Siderska, 2021, Sobczak, 2021; Marciniak and Stanisławski, 2021; Kedziora *et al.*, 2021).

The *Dynamic Multi-dimensional Performance framework* (DMP) was presented by A. C. Maltz *et al.* (2003). It was a modified Balanced Scorecard from Kaplan and Norton's *The Balanced Scorecard* and Shenhar and Dvirs's *Success Dimensions* model. This model, proposed by the researchers, is designed to measure the success of organisations and is comprised of 12 possible baseline indicators classified into five main perspectives of success: 1) financial; 2) customer/market; 3) processes; 4) human development; and 5) readiness for the future. From these specific indicators, organisations can select the indicators they feel are the most relevant for measuring success at a certain time (Maltz *et al.*, 2012). Dossi and Patelli (2010) point out that contemporary approaches to performance measurement systems (PMS) emphasise the role of performance indicators while implementing the strategy and support the use of non-financial indicators in addition to traditional financial indicators (metrics). The non-financial indicators in performance measurement systems are equivalently linked to the perspectives of the assessment of customers, internal processes, and people. Bititci (2015) notes that while there is a wide variety of indicators, some popular, commonly used indicators are used. The researcher presents the most commonly used indicators based on the four perspectives of the Balanced Scorecard and some of the most popular sources such as the Advance Performance Institute, Oliver Wight International, and the Supply Chain Operations Reference (SCOR) Model (Bititci *et al.*, 2015).

After summarising the criteria of the value RPA generates for the organisation and comparing them with the systems of organisation performance indicators, it is expedient to evaluate the value generated by RPA to the organisation considering the dynamic multi-dimensional system of the organisation performance indicators and selecting specific indicators in the context of RPA application (see Table 2).

Dimensions of organisation performance	Success measures
FINANCIAL	<ol style="list-style-type: none"> 1. Sales 2. Profit margin 3. Revenue growth
CUSTOMER MARKET /	<ol style="list-style-type: none"> 1. Customers' Satisfaction (e.g., regarding quality, speed, service accessibility, etc.) 2. Customer retention rate 3. Product/services quality 4. Corporate reputation and image 5. Market share or position
PROCESS	<ol style="list-style-type: none"> 1. Time to market for new products and services 2. Quality of new product development and project management processes 3. Quantity and depth of standardised processes 4. Cycle time 5. Quality of re-engineering processes 6. Total costs of internal processes
PEOPLE DEVELOPMENT / HUMAN CAPITAL	<ol style="list-style-type: none"> 1. Retention of top employees 2. Quality of professional/technical development 3. Quality of leadership development 4. People's satisfaction (e.g., increased employees' motivation by shifting them from manual work towards creating more value in the organisation) 5. Attractive place to work
PREPARING FOR THE FUTURE	<ol style="list-style-type: none"> 1. Depth and quality of strategic planning 2. Anticipating/preparing for unexpected changes in the external environment (e.g., ensuring the continuity of the organisation performance during a pandemic, war) 3. Investment in new product/service development 4. Investment in new technology development 5. Investment in new market development 6. Investment in management innovation

Table 2. *Corporate performance measurement framework: dimensions and measures (based on Maltz et al., 2003; Maltz et al., 2014; Dossi and Patelli, 2010; Bititci, 2015) (personal elaboration)*

To assess the corporate performance, this paper will use the characteristics detailed in Table 2.

THEORETICAL MODEL AND HYPOTHESES DEVELOPMENT

To fully exploit the benefits of IT, the BPM research in this area and the identification of the latest trends in practice are essential (Ahmad and Van Looy, 2020). Only 1 per cent of business organisations have sufficient BPM capabilities to derive full value from digitisation (Antonucci *et al.*, 2021). It is necessary to integrate new technologies into management practices. Moreover, new interpretations and understanding of what they can mean in a BPM context must be provided (Badakhshan *et al.*, 2020). Researchers should purposefully reconfigure working methods by considering new digital technologies and their impact on the dynamism of BPM and the structure of the organisation. Thus, technology and management interact in a complementary way (Lacity *et al.*, 2015; Cewe *et al.*, 2018).

BPM can increase the relevance of digitisation processes, as an organisation can benefit from BPM mechanisms and frameworks and start its digitisation processes with BPM initiatives (Imgrund

et al., 2018). Syed *et al.* (2020) performed a structured analysis of 125 articles on RPA. They found that the generation of value is based on several key factors, such as the readiness of the organisation for RPA, the capacity of the RPA technology for launching, and the implementation and delivery of the RPA solution. In other words, the issue of the BPM capability of the organisation is important. The BPM maturity models can play a key role in applying digital technologies (Ahmad and Van Looy, 2020). Higher BPM capabilities lead to increased value through digitalisation. Future research could further explore new or evolving BPM capabilities and empirically investigate the impact of new and evolving BPM capability areas or structures concerning the different benefits of digitisation (Antonucci *et al.*, 2021).

According to Van Looy (2021b), recent BPM research fields are developing BPM solutions but do not explain deeper links between BPM and digital innovation. A study on the impact of BPM capabilities on public performance revealed that all BPM capabilities are positively related to the society-oriented performance of the organisation (Couckuyt and Van Looy, 2021). BPM capabilities are positively associated with the benefits of digitisation (Antonucci *et al.*, 2021). However, it should be noted that there are no studies on the links between BPM capabilities, RPA, and organisation performance.

Therefore, this study will analyse and assess the links between the four main constructs - BPM capabilities, RPA application, compliance with RPA-relevant process characteristics, and organisation performance.

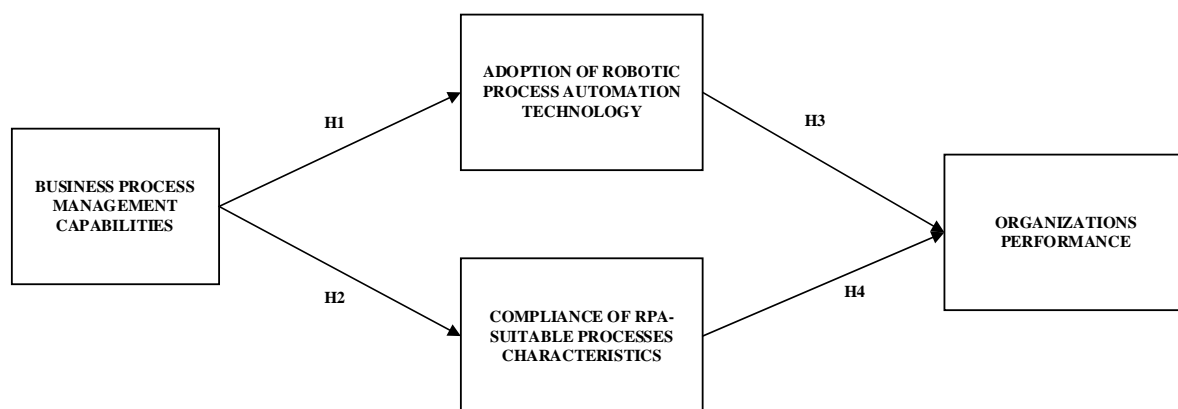


Figure 1. *Conceptual model and hypotheses (personal elaboration)*

The aim is to investigate the impact of the BPM capability of an organisation on the (perceived) application of RPA technology; the compliance of the processes selected for robotisation by the organisation with the characteristics of RPA-relevant processes, and how the latter impacts the perceived results of organisation performance. The conceptual model of these possibilities is presented in Fig.1. Initial hypotheses for these links were formulated (see Table 3).

No	Initially hypothesised links
1.	BPM capabilities have a positive impact on applying RPA technologies
2.	BPM capabilities have a positive impact on the compliance of the processes selected for robotisation with the characteristics of RPA-relevant processes
3.	Application of RPA technologies has a positive impact on the results of organisation performance
4.	Compliance with the characteristics of RPA-relevant processes has a positive impact on the results of organisation performance

Table 3. *Links between BPM capabilities, RPA, and the results of organisation performance (personal elaboration)*

These hypothetical links form a complex model that includes regression, mediation, and moderation. Further, empirical research will aim to analyse and evaluate these impacts.

CONCLUSIONS AND CONTRIBUTIONS

In general, the relationship of the links between RPA and BPM is a contemporary, new topic. RPA is becoming an important tool in BPM. RPA technology has a significant impact on individuals and organisations. However, the implementation of RPA is challenging. As with all innovations, organisations must learn how to manage the implementation of RPA to achieve optimal results. This paper identifies potential links between BPM capabilities, application of RPA, compliance with RPA-relative process characteristics, and organisation performance based on scientific literature. Considering the operationalisation of the constructs discussed, a research instrument has been developed and made available to potential respondents for completion.

The contribution and the originality of the study is that this topic in the context of these four components is very little and very fragmentarily researched among researchers. This area requires more in-depth research, especially quantitative empirical research. This study contributes to the field of BPM research by exploring the links between BPM capabilities, the (perceived) value of RPA generated for the organisation, and the compliance with the characteristics of RPA-relevant processes. The result of this study will be useful to organisations seeking to enhance the value generated by their business processes in the context of organisation performance by implementing and developing RPA. A limitation of this study should also be noted. The study is based exclusively on analysis of scientific literature. However, an empirical study is underway to clarify and substantiate the aforementioned hypothetical links. In future research, it would be useful to extend this study to include not only RPA, but also artificial intelligence, blockchain, etc.

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THE IMPACT OF GOVERNANCE RULE PRACTICES ON THE PERCEIVED QUALITY OF PUBLIC SERVICES: THE CONTINGENT ROLE OF TRUST IN GOVERNMENT

Taamneh, Mohammad M.; Hija, Ayman Abu; Taamneh, Abdallah M.

School of business, Jadara University

ABSTRACT

Purpose- The purpose of this paper is to examine the impact of governance rules on public services. In addition, study investigated how trust of government moderates the relationship between governance and public services.

Methodology- The methodology of this paper is based on literature review and data gathered through questionnaire distributed to citizens.

Findings- The result of the study showed a moderate degree practice of governance, public services and moderate trust in government. Governance is related positively with public services. Finally, trust in government support the relationship between governance and public services.

Originality- The study contributed to the body of knowledge represented by the framework of relationships among governance, public services and trust in government. May practical implications for policy makers are presented.

Keywords: Governance, trust in government, quality of public services, Jordan

1. INTRODUCTION

In the field of management science, modern terms have appeared, both scientifically and practically, related to the creation of new practices in management science. Among those practices and somewhat modern administrative trends is governance. Governance is one of the most important modern concepts that has attracted the interest of a wide range of stakeholders, users and experts (Alqooti, 2020). The concept of governance emerges as a result of a government's changing function and the redistributing roles of the principal development partners, namely the government, the private sector and non-profit governmental organizations (Alareeni, 2019). According to (Alqooti, 2020), there is no common framework for public governance across public entities, although they must adhere to certain principles of good governance. However, many scholars have agreed on the following most prevalent elements that should be incorporated in the governance framework: participation, rule of law, transparency, accountability, and responsiveness (UNESCAP, 2009; Pratiwi and Sari, 2017).

According to IFAC (2013), successful governance is characterized by strong inspection, which provides essential pressures for enhancing public sector performance and resolving wrongdoing. It also improves management, which leads to better execution of the chosen interventions and better service delivery. Employees can be more competent and transparent in delivering superior services thanks to good governance principles such as participation, rule of law, accountability, openness, fairness, and efficiency. Good governance also safeguards employees against a tendency for misconduct (Alaaraj, 2014).

The term 'public services' refers to government-provided services to those living under its jurisdiction, either directly (via the public sector) or through the financing of such services (David et al., 2012). Many studies have been undertaken using quantitative and qualitative approaches to highlight the impact of governance on development and the degree of quality of public services. These studies generally agreed that good governance helped to make better use of the available resources and improved accountability, quality and service delivery, all of which worked to improve citizens' wellbeing (Taamneh, 2020, Ali, 2017). Service quality is an important sign of a firm's effectiveness, and it's critically valuable in governance.

Trust is a key element in the governance system, as it refers to citizens' confidence in public bodies (Mahmud, 2021). According to Herian (2014), trust is a predictor of support for public services, although the link between trust and support for services differs between service areas, which is to be expected given the wide range of activities and spending endeavors done by governments. Scholars use emotional and situational components, as well as a combination of the two, to define trust. The readiness of one party to rely on the other party to uphold its agreements is referred to as trust, and it can be regarded as the cornerstone of all human interactions and institutional relationships (Tonkiss et al., 2000; Blind, 2007). Any society's ability to function depends on its citizens' ability to trust one another.

The importance of the study lies in its handling of a recent topic (governance), which has not received sufficient attention in the public sector, unlike the case of the private sector which has received remarkable attention from the end of the twenty-first century. However, the greatest importance was in trying to build a framework consisting of relationships that combine governance and the quality of public services in light of the moderator variable, which is trust in public organizations through a complex model that has never before, within the limits of researchers' knowledge, been addressed. Given the scarcity of studies in this context, this study came to fill the gap. Policymakers and committees responsible for assuring quality service delivery in public institutions will benefit from the research. Future scholars will be able to use the study as a source of knowledge and a reference. The study's goals were to: (a) Investigate the extent to which public organizations in Jordan adhere to

governance rules; (b) To determine the role of governance rules in the delivery of public services; (c) To establish a link between governance rules and public service delivery in public organizations; and (d) To identify the role of trust in public organizations in the relationship between governance rules and quality of public service delivery.

2. LITERATURE REVIEW AND THEORETICAL HYPOTHESES

2.1 Governance rules

Governance is defined as the sum of procedures reflected in facilitating and activating laws and regulations. All of this is necessary in order to select the most appropriate and effective techniques for ensuring that the organization achieves its objectives and to make decisions that result in superior performance (Abdullah & Valentine, 2009). The concept of governance is embodied in the effectiveness, efficiency and legitimacy of government, not just at the national level but also at the global level, allowing states to play an adequate and interactive role in global economic trends (Touq, 2014). In this context, Yousaf, Ihsan, & Elahi (2016) defined it as the way the government exercises power in order to run government operations effectively, whether at the political, economic or administrative levels. According to Massey and Miller (2016), public governance is described as a group of integrated public actors in charge of establishing, implementing and enforcing a certain regulatory requirement, with the ability to supervise and regulate several government entities.

It's important to note that good governance has three main components: administrative, political and economic. Economic governance refers to the mechanisms by which a country's economic endeavors and relationships with other economies are decided. This is represented immediately in the dimensions of poverty, equity and living standards. Political governance is concerned with the process of developing policies. The administrative rule refers to the mechanism or tool that is used to put policy into effect. The processes and institutions that manage political, social and economic relations are defined by good governance, which is based on the three sides.

Despite the economic, social and cultural disparities that exist between societies and states, as well as variances in levels of knowledge and political and social development, it is vital to work toward the implementation of specific governance rules. The following rules and principles create an appropriate framework for governance practices, taking into account the level of political maturity, democratic trends, and the Jordanian context, which is in a transitional stage to a democratic ideal in the Arab region (UNESCAP, 2009; Shaher and Rabayaa, 2019): (1) Participation, which entails involving members of the community in the decision-making process by activating institutional channels that allow them to present their ideas in a way that respects their right to free expression; (2) The rule of

law, which states that all members of society, regardless of their position or social status, are subject to the terms of law; (3) Transparency, which refers to the freedom of information and data flow, as well as the knowledge components of that flow, as well as efforts to clearly express what is required; (4) Response, i.e., providing service to citizens without exceptions within certain time periods that correspond to their requirements and expectations; (5) Equality, which refers to individuals of society having equal opportunity; (6) Accountability, which refers to the ability to replace individuals and hold them accountable when they make mistakes or fail to satisfy the expectations and goals of their social standards. The nature of the service, the expenses of general service, and the output are all subject to accountability; (7) Efficiency and effectiveness, or the ability to make the best use of resources.

2.2 Quality of public services

The concept 'public services' refers to government-provided services to those living under its authority, either directly (via the public sector) or through the financing of such services (Villadsen, 1999). Service quality, according to Parasuraman et al. (see Ali and Reza, 2017), is a function of pre-purchase client expectations, perceived quality standards, and perceived outcome quality. They came up with the SERVQUAL multiple-item survey instrument by defining service quality as the difference between consumers' expectations of service and their impressions of the service experience (Parasuraman et al., 1988). The SERVQUAL scale is a key tool for evaluating service quality.

The delivery of services is an important government responsibility. Citizens have traditionally been treated as passive users of standardized public services, with no opportunity to provide input on the services and goods they received. SERVQUAL is the most widely used model for assessing service quality (Parasuraman et al., 1985; 1991; 1994). Despite the fact that the model's founders initially specified ten dimension of service quality, many experts subsequently agreed on only five: (1) Reliability, or the ability to supply services precisely, on time, and fairly, is an essential trait of the SERVQUAL model.; (2) Tangibles, which include the physical infrastructure, the appearance of workers, equipment, machineries, and information management; (3) Assurance: Creating trust and credibility among customers is what assurance entails. Technical expertise, practical excellent communication, civility, authenticity, expertise, and professionalism are all factors to consider; (4) Empathy: Empathy entails paying close attention to consumers in order to provide compassionate and distinctive service; and (5) Responsiveness, which refers to the enthusiasm to serve clients with respect and give prompt service to satisfy (Kobiruzzaman, 2022).

2.3 Trust in government

As it is hard to agree on a definition of trust, there is a lot of conceptual vagueness around the concept of trust. Social psychology sees it as a psychological state that tends to come from an individual's

desire to be vulnerable to the actions of another party (Paliszkiewicz, 2011). Sociology, on the other hand, sees it as a belief in the trustworthiness of others that is based on emotional bonds between individuals and that involves reciprocated care (Nepal, and Paris, 2013). When it comes to economics, trust is based on a person's belief that another person's actions will be good for them rather than bad (Bhati, 2015). The numerous beneficial consequences of trust on group involvement, organizational efficiency and sustainability, and communication quality are frequently the motivation for studies concentrating on the concept of trust (Sousa-Lima et al., 2013; Mabillard, 2020). Trust, according to Sztompka (1999), is a gamble on the future unpredictable acts of others. According to him, trust is comprised of seven components: effectiveness, dependability, regularity, fairness, representativeness, benevolence, and responsibility. Public authorities focus heavily on trust in their interactions with citizens. Governments, due to their prominent position in service delivery, must maintain a high level of trust to maintain their legitimacy and accomplish properly.

Trust is described as a favorable attitude toward an individual's or an organization's behavior. It is a subjective concept that is reflected in the 'client's eyes' and it is particularly critical when it comes to influencing behavior. Citizens' faith in government is defined as citizens' confidence in a government's ability to 'do what is right and viewed as just' (Easton, 1965; Bouckaert and van de Walle, 2001). Citizen trust in government has been slowly declining in the last few years (Dalton, 2012; Tobin et al., 2012), with advances in the news industry contributing to the alteration of citizen-state relations.

Conceptual framework and hypotheses development

Many scholars have pointed out the importance of governance practices in the public sector. The public sector's governance is critical since it strives to improve the quality of services provided to citizens. It works to activate accountability by setting standards for good governance in the public sector, which has a supervisory system that works to improve the public sector's performance and confront inappropriate conduct, resulting in the implementation of good governance practices on the ground and thus pushing for better services (FAC, 2013; Khaled, Alam and Said, 2016). In the same vein, Alaraj and Ibrahim (2014) and Mutahaba (2014) confirmed that governance and its norms encourage managers of public sector organizations to make better decisions and lead them toward the most efficient use of available resources, enabling staff to provide high-quality services. In discussing the principles of good governance for public services, OPM, CIPFA (2004) stated that the definition of good governance should emphasize the organization's goal and the outcome for people and service users, in addition to ensuring that the customer receives a high-quality service.

Employees can be more competent and transparent in offering high-quality services thanks to good governance concepts like participation, fairness, rule of law, and efficiency. On the other hand, poor

governance jeopardizes service delivery and favors a small group of people (Ronny and Endang, 2019). The study undertaken by Egwaikhide and Udon (2012) discovered that a lack of good governance has resulted in widespread tax avoidance, undermining earnings; this results in inferior delivery of services and unequal wealth distribution. This demonstrates a clear connection between governance and service performance. Numerous studies have been conducted in various countries, including India, Orissa, Malawi, and Nigeria, examining the relationship between governance rules and perceived quality of public services (Dash, 2012; Egwaikhide and Udon, 2012; O'Neal, 2012). These investigations demonstrated that the absence or non-application of governance standards results in corruption and a failure to provide adequate services and infrastructure, as well as an inability to provide skilled staff capable of meeting citizens' demands. As a result, it is obvious that governance rule practices have a critical influence in peoples' perception awareness of the quality of public services, leading us to construct the following hypothesis:

H1. Governance rules practices will positively influence the perception of quality of public services.

The implicit hypothesis in recent quality initiatives in Western government administrations is that quality leads to satisfaction and satisfaction to trust. We have shown already that the first relation (quality-satisfaction) is not so obvious, because of the multitude of other factors involved, and because of the importance of perceptions and expectations (Bouckaert et al., 2001).

Numerous scholars have asserted that good governance must be implemented to maximize public trust in the government (Speer, 2012; Jameel et al., 2019), as it promotes the government's clue of being inclusive and interactive with the public in order to compete on a global level. Additionally, accessible government is associated with awareness, connection, and quick feedback, and is measured by how effectively the people viewed the government's ability to pay attention to and respond to questions (Qiaoan and Teets, 2020). The study by Beshi and Kaur (2020) discovered a favorable correlation between governance rule practices and trust in government. Furthermore, Lee and Porumbescu (2019) proved the critical significance of responsive governance in establishing public trust in government using e-government platforms by timely distributing vital information to the people. To assess the sources of trust-building in governance rules, Yang and Northcott (2019) identified government accountability as a significant source of trust-building. Additionally, Wang et al. (2018) asserted that citizens place a higher premium on governments that communicate monetary and non-monetary matters with citizens fairly.

Open access to government information demonstrates transparency and fosters the perception that the government acts legitimately, resulting in improved people's trust (Nedal and Alcoriza, 2018). Thus, considering the literature and the theory of good governance, which supports that the

government must react to people's concerns in a timely manner in order to establish good governance, we can conclude that governance rule practices enable citizens to gain a better understanding of the work carried out by the government in their best interests, thereby increasing their trust in the government. Numerous researchers argued that trust in government is contingent on a number of characteristics, the majority of which relate around governance rules and principles. According to Bouckaert and Walle (2001) and Mansoor (2021), transparency, which ensures citizens' knowledge of public policies and government functions, is positively related to trust in government, meaning that an informed citizen has a higher level of trust in the government and the public departments that provide the services he requires.

While most research on trust in government begins with an attempt to establish statistical correlations between sociological and demographic characteristics and trust in government, there is a problem in interpreting causal processes. Concerns about reestablishing people' trust in the government are at the heart of public sector reform. Citizen distrust is frequently attributed to poor performance of public services. According to Walle and Bouckaert (2003), this is a totally rational and mechanistic explanation that matches to only a portion of reality. The connection between performance and trust can be established only under very precise circumstances. The discussion's central theme is causality. It was discovered that while public administration performance has an effect on trust in government, current levels of trust in government may have an impact on perceptions of government performance within the context of the concept of causality. The level of government performance and the high quality of its services are not the sole determinants of residents' trust in it; there are additional variables, such as political issues, that influence individuals' attitudes toward government trust. The pervasiveness of a distrust culture among residents causes them to see all government actions adversely. Given this, the question of whether to classify trust as an independent or dependent variable remains, as trust can be viewed as a cause or effect (Ruscio, 1996). Considering this discussion, the following main hypotheses might be advanced to explain the relationship between governance practices and public trust:

H2. Trust in government will positively influence the perceived quality of public services in Jordan.

H3. Trust in government will moderate the relationship between governance rule practices and the perceived quality of public services in Jordan.

3. METHODOLOGY

This is a quantitative study in which multiple links between independent and dependent variables are examined (Jingwei and Ma, 2021). This study's conceptual framework takes a simple but theoretically precise approach to explain the determinants of public service quality and the consequences of governance rule practices, hypothesizing that trust in government acts as a moderator between two variables.

The responders are citizens who approach government departments for services. They were chosen because they are the most capable and conscious of the level of service quality they receive, and those concerned with trusting the government, which reflects its legitimacy via them. The study was conducted in Jordan's northern region, specifically in its four governorates (Irbid, Mafrq, Jerash, and Ajloun). Thus, the study used a convenient sample, with citizens filling out questionnaires assisted by a group of research assistants (graduate students) from Jadara university. We distributed 790 questionnaires for citizens.

The following items were developed using data from previous studies: (a) Governance rules practices: Thirteen questions were adopted from Kaufman and Daniel (2010) and the USAID Guide (2015) to cover six dimensions (i.e., the rule of law, transparency, participation, efficiency and effectiveness, justice, equality, and accountability); (b) Quality of public services: we adopted this questionnaire from Wijesekera and Fernando (2017); (c) Trust in government: we utilized eight items developed by Daniel Kauffman. 790 questionnaires were distributed to citizens in the four governorates, with the aim of identifying clients who contact public institutions to request their own services. To guarantee that the maximum possible number of public authorities providing services was represented, citizens in the following public institutions completed the questionnaires: health, education, public works, finance, municipalities, and the interior. The data collection took place between March 20th and April 18th, and 560 questionnaires were returned yielding a 71% response rate. Incomplete questionnaires and those containing a high number of forgotten values were omitted. We eliminated all incomplete responses and those with a high rate of missing values (Hair et al., 2010).

4. DATA ANALYSIS AND RESULTS

The demographic factors of this study's respondents were males 56.7% and 43.3% of the respondents were females, 75.4% of them held a bachelor's degree and 19.3% held a postgraduate degree, while the other even have a diploma degree 3.2% or secondary or less degree 2.1%. Most of the respondents were aged between 30 and 39 years (51.5%) and those between 40 to 49 years were 18.6%, and those who were between 20 to 29 years were 18.6%. The remainder were either between 50 to 59 (11%) or

more than 60 years (1.3%). The descriptive statistics show that the level of governance rule practices was average and tended to be low (Mean = 54, Standard deviation = 0.82). The rule of law and transparency ranked first and second, respectively, while efficiency and effectiveness ranked last. The study also indicated the same patterns concerning the quality of government -provided services. Mean dissatisfaction with government services among respondents was 2.58, with a standard deviation of 0.86. The quality of service domains received rating from moderate to low.

Reliability test

The reliability of the measurement was tested by Cronbach's alpha which, according to Sekaran (2021), must be more than 0.70 to be reliable. Table 3 below shows that the reliability test reached 94.5, 94.2, 92.1 for quality of service, law and trust, respectively.

Table 1 Reliability and validity

Construct	Cronbach's alpha	CR	AVE
Quality	94.5	-	-
Law	94.2	0.991	0.942
Trust	92.1	0.970	0.787

Normal distribution

According to Tabachnick (2019), skewness and kurtosis are used to examine the normal distribution of data. The values of skewness must be between $1.96\pm$ and for kurtosis must be between $2.58\pm$. The results of Skewness test ranged between -.010 and 1.105 and the Kurtosis test ranged between -1.131 and .465, which indicate that the data is normally distributed.

The results of feasibility of the model

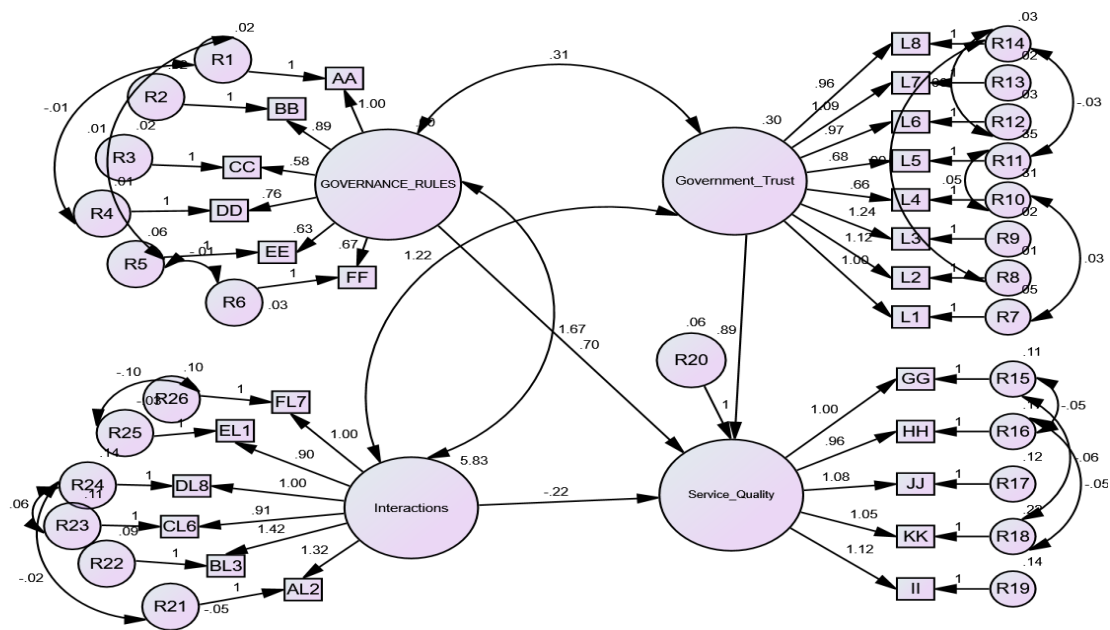
The results shown below in Table 3 demonstrate the model feasibility test on variables of the model, which is acceptable fit for the tests CMIN, REMSEA, GFI, AFGI, NFI and CFI, while the PMR test shows that the model is good fit.

Table 3: Goodness of fit indices

	Cutoff		Model	Fitness
	Good fit (GF)	Acceptable fit (AF)		
CMIN	IF ≤ 2	IF ≤ 3	2.871	AF
REMSEA	IF $\leq .05$	IF $\leq .08$	.079	AF
RMR	IF $\leq .05$	IF $\leq .10$	.049	GF
GFI	IF $\geq .95$	IF $\geq .90$	.911	AF
AFGI	IF $\geq .90$	IF $\geq .85$	.871	AF
NFI	IF $\geq .95$	IF $\geq .90$	.903	AF
CFI	IF $\geq .95$	IF $\geq .90$	.941	AF

Generalized least squares estimates

We used GLS to test the hypothesized relationships between the governance rules and the quality of public services, and the moderation effect of the trust in government. The results are illustrated in Table 4 below.

**Table 4** Regression weights

			Est.	S.E.	C.R.	P
Service quality	<---	Government trust	.891	.094	9.502	***
Service quality	<---	Interactions	.223	.030	7.566	***
Service quality	<---	Governance rules	.695	.055	12.581	***

The results of GLS show that the government rules are related positively with the public services quality since the C.R. = 12.581 with significance level = 0.00, this means the respondents perceive the governance rules enhance the quality of public services. Additionally, the trust in government plays a vital role in respondents' perception to enhance the service quality with the C.R. = 9.509 with significant level = 0.00. Moreover, the results show that the trust in government enhances the perceived relationship between governance rules and the quality of public services, the C.R. = 7.556 with significant level = 0.00.

5. DISCUSSION

This study aims to examine the impact of governance rule practices on the level of citizens' perception of the quality of government services in Jordan, with trust in government serving as a moderator variable. It makes sense to begin by assessing the real frequency of the independent variable (good governance practices), the dependent variable (government service quality), and the modified variable (trust in government). The average level of good governance practices in Jordan is a natural reflection of the level of democracy prevailing in the connection of government agencies with citizens.

Although the experience of democracy is not relatively recent, as it was adopted in the late eighties, it is nevertheless below the expected level in a society that can be described by a high level of education and openness. For decades, Jordan's government administration was dominated by centralization, and it was difficult for the central government to transfer its authority to local bodies. This result is consistent with the study of Gharaibeh (2018) and the study of Taamneh et al. (2022) which revealed that the actuality of the application of governance in the Jordanian government sector was moderate. To determine the level of citizens' trust in the Jordanian government, the study, revealed a modest but unacceptable level. This result is consistent with the poll carried out by the International Republican Institute in Amman, Jordan (IRI, 2018). The poll showed low confidence in government institutions, as about 72% of Jordanians have low confidence in parliament, 64% low confidence in political parties and citizens also have low confidence in government institutions. This study also is consistent with the findings of the Jordan Strategy Forum, which found that 54.2 percent of Jordanian citizens trust their government (Jordan Strategy Forum, 2018). When individuals lack faith in elections, they lack faith that the country is democratically controlled. Scholars have demonstrated that a lack of confidence in election integrity can alienate individuals from the political system and cause them to mistrust the government. This unsatisfactory result can be attributed to several causes, the most significant of which is likely the severe economic situations that Jordanian citizens currently face. It appears that the establishment of a culture of mistrust of the government among the citizens results in a poor evaluation of all government actions.

The findings of the study indicate that the average level of dissatisfaction with the quality of government services among respondents was moderate. This result can be explained by the perceptions of many inhabitants regarding the prevalence of Wasta (intercession), as well as their perceptions regarding the poor distribution of services and the hardship of locations away from the capital of the kingdom. It goes without saying that Jordan was subjected to successive migrations from Arab countries, such as Iraq and Syria, which exacerbated the burden on services as the country's population doubled in a short period of time.

The first hypothesis attempts to find a significant relationship between the practices of governance rules and the quality of services provided by the government. The hypothesis test demonstrated a substantial positive association between the independent variable (the governance practices) and the dependent variable (the quality of government services). Thus, having a system of governance rules has been regarded an antecedent to quality of public services. Our findings support this hypothesis. This can be explained by the fact that when the government adheres to principles and practices such as transparency, participation, efficiency, and effectiveness, as well as a commitment to equality and the public employee's willingness to assume responsibility, it is expected that the quality of

government services will increase. This outcome is consistent with other studies in the field (Setyaningrum et al., 2017; Chien and Thanh, 2022).

The second hypothesis seeks to establish a connection between government trust and the quality of government services. The outcomes of the test supported this notion. The main debate on this hypothesis revolves around the concept of causality: the performance of the government has a certain effect on trust in the government. Also, according to the causality theory, the presence of a level of trust in the government has an effect on the citizens' perception of the government's performance (Walle and Bouckaert, 2007). In this study, we built a framework on trust in the government-performance relationship. This can be explained by the fact that citizens who trust their government in any of its facets tend to have a more favorable perception of the government's performance. The third hypothesis attempts to determine the positive, significant relationship between the governance rules and the quality of government services as measured through the moderator variable (trust in government). Testing this hypothesis shows that the trust in government enhances the perceived relationship between governance rule and the quality of public services.

Practical and theoretical implications

The purpose of the study was to explore the influence of governance rules practices on the perception of the quality of public services, as well as the moderating effect of trust in government from the perspective of Jordanian citizens. Thus, our work fills important gaps in the literature. The study's significance derives from its consideration of a contemporary issue (governance), which is crucial in the twenty-first century. To the best of the researchers' knowledge, there has never been an attempt to develop a framework consisting of links between governance and the quality of public services considering the moderator variable, which is trust in public institutions, using a sophisticated model. This study has numerous practical implications for Jordanian government policymakers. At the end of the 1980s, Jordan established a democratic model that can be replicated in the Middle East, but the corrupt activities of powerful persons in the Jordanian government's top administration precluded the execution of the standards of good governance. In addition to difficult living conditions, these immoral activities cause residents to lose confidence in the government. However, the greatest task policymakers should prioritize is restoring citizens' trust in the government. The significance of this initiative is that it restores the harmony between the government and its citizens and is an attempt to gain legitimacy, which will encourage citizens to perform their obligations to the government. This requires a high-level ministerial working group to develop policies for restoring public confidence in the administration that are transparent. It is vital to work on developing the employees' knowledge, abilities, and way of thinking so that they can meet the requirements of applying the rules of governance. Citizens would have a better impression of the government's performance if services

were redistributed throughout regions, with less emphasis placed on center regions at the expense of outlying areas.

This study will contribute to the body of knowledge by presenting a comprehensive framework for the relationship between the practices of governance rules and the quality of public services, incorporating government trust as a modifiable variable. As a cognitive extension of the causality theory, one of the most interesting elements of the study is that it analyses government trust as a moderator of the relationship between rules of governance and public services. This study provides as a starting point for researchers to analyze government trust and its role in promoting public commitment, as well as methods and tactics for rebuilding that trust.

6. LIMITATIONS

Obviously, this research has various limitations, each of which suggests a potential avenue for future study. Initially, the research relied on ordinary citizens as respondents. They may be biased or unaware of the actual application of governance rules and the quality of public services, necessitating the utilization of an alternative sample, such as a focus group. It must be mentioned, however, that the use of citizens as a sample for research in these studies is not uncommon. In this study, we relied on subjective and direct surveying, recognizing that other methodologies such as proxies and experimental games can also be employed. Numerous scholars have applied the survey approach at the local, regional, and international levels. The survey was administered to residents of the major cities, but did not reach other populations, such as those in Badia, the countryside, and the camps.

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THE ROLE OF BUSINESS CLUSTER ECOSYSTEMS AND PRODUCTIVITY IN ACHIEVING HIGH GROWTH ENTREPRENEURSHIP: EVIDENCE FROM GERMANY

Temouri, Yama^{1,2}; Pereira, Vijay³; Rammal, Hussain⁴ ; Luong, Ha-Phuong²

¹Khalifa University, Abu Dhabi, 127788, UAE

²Aston University, Birmingham, UK

³NEOMA Business School, Reims Campus, France

⁴Adelaide Business School, University of Adelaide, Australia

ABSTRACT

This paper examines the role of business cluster ecosystems and drivers of productivity in achieving high growth entrepreneurship. We draw our insights from three strands of literature (the knowledge-based perspective (Hoskisson et al., 1999; Maskell, 2001), insights from economic geography (Krugman, 1991) and the institutions perspective at the regional level (Spigel & Harrison, 2018)) as a theoretical lens, which combined offers a more unifying understanding of how business cluster ecosystems and productivity drivers play a role in fostering high growth entrepreneurship. Drawing on a sample of 11,360 German incorporated firms across 89 clusters over the period 2011-2013, we find a significantly important role of cluster ecosystem on firm to become a high-growth entity. In specific, being located in business clusters increases the likelihood of becoming high growth firms (HGFs) by 2.2 percent - 4.49 percent. Additional insights suggest that some drivers of productivity (total factor productivity and investment in intangible assets) act as moderators in the relationship between business cluster ecosystems and high-growth firm status. The findings of this paper shed more light on the role of business cluster ecosystems and productivity in achieving high growth entrepreneurship and hold theoretical and managerial relevance.

Keywords: Business Cluster; Ecosystems; Firm Performance; Productivity; High growth firms; Entrepreneurship; Germany

1. INTRODUCTION

The topic of High growth firms (HGFs) has attracted increasing attention from academic researchers and policy makers due to their significance for economic development (Beekman and Robinson, 2004; Tomczyk et al., 2012). HGF refers to a firm with a significant growth rate in terms of numbers of employees and turnover growth rates over a 3-year period (Du & Temouri, 2015). In comparison with firms that are not considered high-growth, HGFs disproportionately contribute to technological

progress, job creation, high levels of innovation and internationalization, and above-average levels of productivity (Henrekson & Johansson 2010; Coad et al., 2014; Hözl, 2014; López et al., 2018). Since the latest economic downturn caused by COVID-19 in 2020, HGFs remain leaders in their field to foster economic recovery and industrial resilience, even though the pandemic negatively affects the whole economy (Greene et al., 2020). The important role of HGFs has been confirmed in the literature (Haltiwanger et al., 2013; Hözl, 2014; Lawless, 2014), however, the understanding on the drivers, which support the likelihood of high-growth episodes, remains limited.

Parallel to that, the increasing role of business clusters is at the forefront of the public debate and the international policy agenda. Masyuk et al. (2019) highlights that the tendencies of business clustering can be traced back to the development of regional economic systems in different parts of the world. The literature has indicated a number of similarities between the two concepts “entrepreneurship ecosystems” (Moore, 1993, p. 76) and “business clusters” (Porter, 2000, p. 254). More specifically, Peltoniemi (2004) argues that the success of business ecosystems is based on both competition and cooperation among members of the ecosystems. The entrepreneurship ecosystem acts as an economic community to support the co-operatively and competitively interaction between organizations and individuals, leading to the diffusion of innovations. Similarly, business clusters are “geographically proximate groups of inter-connected firms and associated institutions in a particular field, linked by commonalities and complementarities” (Porter, 2000, p. 254). Moreover, business clusters prosper based on their interaction and competition, enhancing the flow of information and diffusion of innovations. Therefore, this study takes the view that the cluster can be represented as an ecosystem.

Recent studies suggest that intra-cluster cooperation in business clusters results in learning and demonstration effects (see, e.g., Amdam et al., 2020). In particular, firms within the same region and industry can learn from better performing companies (Raspe & Van Oort, 2007). Moreover, firms in clusters are often confronted with tougher competition, forcing them to continuously enhance their performance. For example, Du and Vanino (2020) find evidence for competition-led efficiency improvement among non-high-growth firms when they are close to fast-productivity-growth firms. Thus, it is reasonable to hypothesize that business clusters are conducive to allowing firms to become high-growth as they are close to other high-growth entities, but also that the level of competition is very high, which may also increase the standard to which firms need to succeed in order to stay in business cluster ecosystems. However, there is limited literature and evidence on how business cluster affect the likelihood of achieving high-growth status. In addition, there is some evidence showing the relationship between firm productivity and the high-growth firm status. For instance, Du and Temouri (2015) reveal a significantly positive correlation between total factor productivity (TFP)

growth and the propensity to become HGFs. Nevertheless, there is limited literature to address the link between firm productivity and the likelihood of high-growth episodes in the particular context of business clusters.

The research question we put forward in this paper is whether firms who are located in a business cluster are more likely to achieve the status of high growth entrepreneurship, relative to a set of firms who are not classified as being part of a business cluster? In addition, we explore the role of a set of drivers of productivity in achieving high-growth entrepreneurship between cluster firms and non-cluster firms.

The paper utilizes the knowledge-based perspective (Hoskisson et al., 1999; Maskell, 2001; Lazzeretti & Cinti, 2006), insights from economic geography (Krugman, 1991) and the institutions perspective at the regional level (Spigel & Harrison, 2018) as a theoretical lens. The cognitive distance is small within clusters and the interdependent development among cluster members promote the ability to create knowledge by variation and a deepened division of labour (Maskell, 2001). Inside business cluster ecosystems, inter-firm cooperation continuously enhances clusters' knowledge base, thereby forming a knowledge environment to transfer information and create new knowledge quickly and freely among members (Spigel & Harrison, 2018). Whilst, companies outside clusters are less likely to have such a supportive setting.

The findings from our analysis suggest that firms who are part of business cluster locations are benefiting in terms of higher productivity as well as high-growth entrepreneurship. The impact from business cluster locations is statistically significantly different from non-cluster locations and regions in Germany. The empirical results also reveal moderating effects from high-tech cluster membership, firm productivity and higher investments in intangible assets on the likelihood of becoming a high growth firm in business clusters.

This paper contributes new evidence to the literature in several dimensions. First, to the best of our knowledge, this paper will be among the first of its kind to bring together three distinct literatures (HGFs, business clusters and firm productivity) and utilize insights from each to derive a conceptual framework that links them in explaining high growth entrepreneurship. Second, we base on two dimensions (geographical proximity and industry specialization) of a business cluster suggested by Porter (1998) to be able to classify cluster firms and non-cluster firms in our exhaustive and large-scale sample of firms. This quantitative method enables us to capture the presence of firms who are part of a business clusters and firms who are not part of a business clusters. Whilst, the large literature on cluster research is mostly qualitative and case study based, but has recently started to measure and compare clusters quantitatively (see Pereira et al., 2020).

The remainder of this paper is set out as follows. In the next section, we will discuss literature, conceptual framework, and hypotheses. In Section 3, information on data, variables, empirical models and descriptive statistics will be described. The empirical results are presented in Section 4. Finally, the last section provide the discussion and implications of our research.

2. LITERATURE, CONCEPTUAL FRAMEWORK AND HYPOTHESES

The literature on entrepreneurial ecosystems (or ecosystem for entrepreneurs) (EE) is in its infancy and has evolved from its regional geography base. While there is not yet a widely shared definition of what constitutes an EE (Stam, 2015), there is a broad consensus that these ecosystems can help stimulate entrepreneurship, innovation, and technological development (Carayannis et al., 2018). These ecosystems are particularly relevant in the contemporary turbulent business environment, where resources are shared. Knowledge spillovers among network members can be achieved with government support to create a competitive advantage for all actors within a specific region. Due to their emphasis on cutting-edge technology, some studies suggest that EEs should be viewed as a digital economy phenomenon that facilitates entrepreneurial opportunities through radical business model innovation (Audretsch et al., 2019; Autio et al., 2018).

Autio (2016) describes EEs as “interaction systems comprised of loosely connected, hierarchically independent, yet mutually co-dependent stakeholders” (p. 20). These stakeholders (or actors) support new entrepreneurial ventures by circulating human and financial capital, market know-how, and providing a formal institutional environment that facilitates this interaction (Spigel & Harrison, 2018). In addition, Schweitzer et al. (2021) suggest that the collective power of the actors in the EE can also help bring about policy and institutional changes that support the new technologies and products, especially digital.

Cao and Shi (2021) detail some of the advantages of EEs and how they are developed. Having many firms from the same sector and supply chain working within a regional cluster helps attract and train new skilled workers. This clustering of the firms in close proximity facilitates knowledge processing and creation, a key feature of success in modern economies. The knowledge spillovers in EEs results in the development of cutting-edge technologies that entrepreneurs can access (Cao & Shi, 2021).

The importance of entrepreneurship in stimulating economic growth is well-established (Autio, 2016). While firms from similar industries working together can create centres of excellence (Doz et al., 2001), entrepreneurship inherently is disruptive and challenges the existing processes. Hence, they blossom in environments or ecosystems that are distinct from others. Some studies highlight the benefits of diversity in EEs as both a risk spreading strategy to manage disruptions

(Roundy et al., 2017) and an opportunity for disruptive technologies to evolve (Sussan & Acs, 2017). This diversity can be related to geographic diversity regarding the firms' origins in the EEs, the size of the firms, their reach in terms of domestic or international presence, the industries they cover, the investors etc. (Roundy et al., 2017).

Despite the growing literature in this field, there is still uncertainty about what differentiates well-functioning EEs from others and the varied social values they generate (De Silva & Wright, 2019; Malecki, 2018; Spigel & Harrison, 2018). One explanation for it is whether the EEs can help develop high growth entrepreneurship in firms and the presence of other HGFs in the business clusters. HGFs, also known as "gazelles" are highly valued for their contributions to the national economy. These firms are examples of success and achieve market acceptance due to rapid growth and their ability to sustain it over time. Due to their performance, HGFs provide long-term employment for a large number of workers and are viewed as an attractive investment opportunity by private investors. Weinblat (2018) suggests that since many countries in Europe have high unemployment rates, the presence of the HGFs help alleviate this issue. Hence, government agencies rely on the HGFs and make relevant policy changes to create a conducive business environment to attract and retain them within their economy.

HGFs exist in all industries and include all firm sizes, but there is less agreement over how they can be measured (Demir et al., 2017). Several studies use the firm's growth rate against others in an industry or region as a measure. Others use the increase in sales or employees over time to classify growth (Demir et al., 2017; Du & Temouri, 2015). Regardless of the measure, HGFs grow faster than their peers in their industry as they are observed to be more innovative and proactively invest in R&D (Moreno & Coad, 2015).

Within EEs and clusters, HGFs are valued for the positive spillover effects they produce (Weinblat, 2018). The knowledge can be related to technology, organisational efficiencies and so on. Since HGFs possess more advanced knowledge than other firms in the ecosystem, the spillovers can occur due to labour mobility, when workers leave HGFs or when non-HGFs start imitating (de Nicola et al., 2021). These knowledge spillovers increase firms' overall cooperation, productivity, and competition in the EEs (Weinblat, 2018). There are several drivers for the development of HGFs that can be accessed through intra-cluster cooperation.

2.1. Intra-cluster cooperation: Toward knowledge-based theory of a cluster

Industrial clusters are geographically proximate groups of inter-connected firms and associated institutions in a particular field, linked by commonalities and complementarities (Porter, 2000, p. 254). One of the distinguishing features of a business cluster is the co-existence of competitive relations and cooperative relations between cluster actors (Porter, 1998). Firms in clusters are often confronted with

intensive competition, forcing them to engage in learning processes and to enhance their performance continuously (Porter & Miranda, 2009). Rosenfeld (1997) argue that former companies in business clusters are initially fierce competitors of each other and new immigrant firms. However, co-located firms quickly realize that it is difficult to maintain any secrecy for long, as they are born and raised in the same “schools” (Rosenfeld, 1997, p.20). That creates a general climate of understanding and trust (Swann & Prevezer, 1996; Prospris & Driffield, 2016). Competing firms in business clusters then collaborate with each other for common goals, and function as networks within a particular geographical space (Archibugi & Pianta, 1992; Gulati, 1999; Jankowska, Götz & Główska, 2017). Social interaction from a geographical region leads to the imitation behaviour for decisions (Swann and Prevezer, 1996). For example, Kelchtermans, Neicu and Teirlinck (2020) reveal that spatially agglomerated firms are likely to rely on the choices of their peers to make their own decisions with regards to R&D tax exemptions. Thus, business clusters are conducive to an intra-cluster cooperation among cluster members, fostering a self-reinforcing mechanism.

The intra-cluster cooperation in business clusters brings favourable conditions for cluster entities to promote knowledge spillovers (Fritsch & Lukas, 1999; Abukabarr & Mitra, 2017). According to Jankowska, Götz & Główska (2017, p.187), there are two critical dimensions of a business cluster, including “spatial proximity” and “relational proximity”. The spatial dimension favours contacts and fosters cluster entities to interact in both formal and informal settings (Nam, Manchanda, & Chintagunta, 2007; Isaksson, Simeth & Seifert, 2016). The relational dimension allows co-located firms to exchange information, especially uncoded knowledge (Du & Vanino, 2020). These two dimensions foster social capital in business cluster, and then reinforce agglomeration externalities, mainly through imitation, cooperation, competition and personnel relations (Almeida & Kogut, 1999; Debruyne & Reibstein, 2005; Gort & Konakayama, 1982; Leary & Roberts, 2014; Laursen, Masciarelli & Reichstein, 2016). Furthermore, two critical dimensions of a business cluster form a basis for the effective creation of new knowledge among cluster entities. In particular, the process of knowledge creation emerges from the effective exchange and sharing of knowledge resources among members (Jabbour & Mucchielli, 2007; Li & Bathelt, 2018). In business clusters, a group of independent firms take similar activities of locational economies. However, individual organisations are heterogeneous entities loaded with the tacit, specific and complex knowledge about market opportunities, products and services (Cohen and Levinthal, 1990).

2.2 Hypotheses development

Firm growth research is an integral part of entrepreneurship research since the 1980s (see e.g., Birch, 1987; Storey, 1994; Azoulay et al. 2020) and much attention is focused on HGFs. In this research the entrepreneur is seen to work not in isolation, but in an ecosystem that supports the social context in

which entrepreneurship takes place (Audretsch et al., 2002). Spigel (2017) and Stam (2015) also refer to the ecosystems as requiring intangible and tangible assets, and that these combined lead to an environment conducive to entrepreneurship.

In this regard, the literature shows some evidence about the relationship between firms located in a business cluster and a positive impact on entrepreneurial success (Temouri et al. 2020). Recent evidence, shows that human capital drives economic development, and firms in clusters often have superior ability to drive economic growth and business development. Research indicates firms located within business or industry clusters may have a competitive advantage, as they are better able to draw from a pool of high-skilled workers, and indeed that many engineers, IT professionals, and those working in R&D may base their career decisions on their ability to move into a relevant industry cluster (see Pereira, Temouri, and Patel, 2020).

Within clusters, firms have a relative advantage in that they have an enhanced ability to work both strategically with other firms and organizations outside their own organization (Shin, Taylor, and Seo, 2012). Such deliberate attempts to collaborate with business constituents benefit the organization, and contribute to success both on the individual and collective levels (Pereira et al., 2020), and prior studies provide empirical evidence for the resilience of cluster-located firms (see, Helper, MacDuffie, & Sabel, 2000; Kranton & Minehart, 2000), which is demonstrated in the literature to be driven by three factors: availability of a superior labour pool of high-skill workers (Malmberg & Power, 2005), increased innovation within cluster-located firms (Baptista & Swann, 1998), and access to collaborative linkages, including financiers (Lee et al., 2009). Based on the above literature, we test these ideas through the following hypothesis 1 and 2:

Hypothesis 1: Firms located in '*business cluster ecosystems*' have a higher likelihood of becoming HGFs.

Hypothesis 2: Firms located in '*more technological and knowledge intensive*' business cluster ecosystems have a higher likelihood of becoming HGFs.

MNEs, recognized as core firms, occupy key positions in the hierarchical order of clusters (Bucheli et al., 2018). It is highlighted that knowledge generation and absorption play a very important role in cluster growth and functioning (Porter & Miranda, 2009). Parallel to that, some recent empirical works have unveiled that MNEs are not only knowledge generators but also a knowledge seekers (Rugman & Verbeke, 2003). MNEs increasingly pursue the augment of its knowledge base through obtaining access to foreign pools of knowledge. Hence, MNEs play a leadership role in cluster upgrading and sustaining through innovation and knowledge.

There is an increase of knowledge seeking via foreign direct investment (FDI) by MNEs (Bucheli et al., 2018). MNEs are prone to enlarge their knowledge base by performing R&D investments in foreign locations with a strong technological activity (Rugman and Verbeke, 2003). In

addition, R&D and innovation activities are conducive to the absorptions and generation of new knowledge (Hölzl, 2009). As a result, there is a co-evolution of both foreign subsidiaries and domestic firms via the strengthening of indigenous R&D activities in the host countries. After that, MNEs will replicate best practices and local embeddedness of know-how from foreign locations where their affiliates operate, thereby forming the intra-firm specialization in knowledge creating activities (Caloghirou et al., 2020). In the context of business clusters, valuable knowledge transfer and subsequent knowledge diffusion are between different participants such as parents MNEs coincided with other cluster actors in home countries, and foreign subsidiaries along with indigenous firms in host countries (Rugman and Verbeke, 2003). The international sharing and international linkages form virtuous cycles of co-evolution that significantly contributes to the strengthening of knowledge base for MNEs and to the dynamic of clusters.

In addition, some attempts have been made to date to highlight that assimilation and transfer of knowledge is of vital importance for the support of firm growth. A firm's knowledge enables firms promote its resource base and then generate new opportunities for firms to obtain superior performance and fast growth (Macpherson & Holt, 2007). Macpherson and Holt (2007) argue that firm growth mainly relies on the processes through which knowledge is utilized and acquired. Therefore, the MNEs' heritage of international intra-firm diffusion of knowledge are likely to significantly increases the likelihood of becoming HGFs. Moreover, firms adopting a geographical diversification strategy increase the HGF incidence (Hölzl, 2009). MNEs with a network of its foreign subsidiaries that act as satellites of the parent firms are more likely to scale up.

In terms of the relationship between productivity and high growth firms, much focus has been devoted to describing productivity and firm scalability. Scalability refers to the ability of a company to grow rapidly, whilst productivity is associated with the efficiency in the use of a given set of inputs to obtain the amount of output in production of a company. A virtuous cycle between productivity and high growth has been empirically demonstrated. Du and Temouri (2015) reveal firms with TFP growth have a higher likelihood of growing fast and becoming HGFs. Bravo-Biosca (2010, 2011) highlight there is a positive relationship between the productivity growth and the dynamism of firms' growth rates. In reality, productive firms have a high visibility in a cluster and coincidentally, clusters play a vital role in a company's ongoing ability achieve innovation and productivity growth. (Porter & Miranda, 2009).

On the other hand, productivity rests on how companies compete and that clusters expose the mutual dependence and collective responsibility of all these entities for generating the conditions for productive competition (Porter, 2000). Cluster actors are subject to intensive competition from not only cluster members but also outsiders due to the fact that business clusters grow into international

markets (Porter & Miranda, 2009). Intense rivalry is viewed as the key to sustained innovation and upgrading that drive a cluster (Coad et al., 2014). Due to high level of productivity and intensity of competition inside business clusters, it is reasonable to propose that firms with lower level of productivity find it much more difficult to operate in a cluster network compared to productive establishments. For these reasons, we propose that MNEs share and productivity plays a significant role in the association between business cluster ecosystems and the likelihood of becoming HGFs. As such, we propose hypotheses 3 and 4 as follows:

Hypothesis 3: Firms located in business cluster ecosystems '*with a higher share of MNEs*', have a higher likelihood of becoming HGFs.

Hypothesis 4: '*More productive firms*' located in business cluster ecosystems have a higher likelihood of becoming HGFs.

In the competitive and uncertain environment of contemporary business, it is imperative for firms to make most effective use of their available resources, both tangible and intangible (Barney, 2001). This is a crucial attribute of successful HGFs, as high productivity and related rapid firm growth can be generated via investment in-, development of-, and effective use of intangible assets (Dove, 1999).

There is a growing interest in understanding tangible and intangible assets and the potential role in driving firm growth. For example, there have been attempts to link intangible assets to productivity growth in the UK (see, e.g. Riley and Robinson, 2011; Dal Borgo et al., 2013), and they find that intangible assets have a significant, positive association with productivity, and that firms with a higher proportion of intangible assets are more likely to be highly productive. Thus, it presents another measurement unit to complement our understanding of the sources of firm growth together with tangible factors of production. However, intangible assets include a wide range of contents and are more difficult to measure than R&D expenditure or innovation capabilities of firms. The various elements of intangible assets are also found to contribute to productivity in different ways (Riley and Robinson, 2011).

There is also empirical evidence suggesting that access to intellectual property is associated with facilitating firm growth. In particular, the BERR (2008) study finds that HGFs have a greater propensity to hold intellectual property and intangible assets, including trademarks, than do lower growth firms. Thus, HGFs seem to be able to better identify opportunities and exploit the advantages offered by a stronger provision of capital and knowledge resources compared to slower-growing firms. Based on the above literature, we test these ideas through the following hypothesis 5 and 6:

Hypothesis 5: The impact of '*investments in intangible to total assets*' on firms becoming HGFs is greater for firms in advanced business cluster ecosystems compared with firms located in less advanced business cluster ecosystems.

Hypothesis 6: The impact of '*patents*' on firms becoming HGFs is greater for firms in advanced business cluster ecosystems compared with firms located less advanced business cluster ecosystems.

3. METHODOLOGY

3.1. Data and measurement

The empirical analysis in this paper draws on firm-level data from ORBIS provided by Bureau van Dijk, the world leading electronic publisher of annual accounts information for firms across the world. The ORBIS database includes a wide set of data on company profiles, employment, ownership, industry affiliation, total factor productivity (TFP), number of patents, financial data and location. One of the key advantages of using ORBIS is that it provides an employment variable for each company annually, which we used to construct our dependent variable (i.e. HGF versus non-HGF status). Second, ORBIS allows us to identify and track the location of every firm. The dataset also provides data on industrial classification for each firm on annual basis. Thanks to the detailed and comprehensive data, we can identify firms who are part of business clusters and their non-cluster counterparts across Germany. All monetary values in the dataset are in thousands of US dollars. Hence, we use United States GDP Deflator (Trading Economics, 2021) to deflate monetary values. In total, we have 11,360 firms over the time-period 2010 to 2013, which results in an unbalanced panel dataset of 36,296 firm-year observations. The dataset covers businesses in different industries and sectors in Germany and our choice of focusing on the period 2010-2013, rather than a more recent 3-year period, was driven by data availability that maximized our observations for firms that had enough information for key variables to measure the firm productivity as well being observed for the entire 3-year period. We checked for any more recent 3-year periods and the trade-off between more recent data versus fewer observations (for both measuring HGF status and productivity) would have been detrimental for our subsequent analysis. We return to this aspect again in the conclusion section, where we highlight the scope for further research using different datasets. However, in general, we do not think that focusing on the 2010-2013 creates significant problems in terms of the main results, especially since they are based on a larger set of firms that covers more business cluster and non-cluster regions of Germany.

The paper formulates a number of hypotheses, which are subsequently tested in the empirical analysis on firm-level data (ORBIS database) and regional level data derived from the German official statistical office (DESTATIS). It is important to note that the classification of business clusters has been

painstakingly derived from the literature on German business clusters and information gathered from regional German statistical offices. We also complement the cluster distinction with more general regional level indicators and policies, which are designed to support entrepreneurial and growth aspirations of firms in different regions of Germany (cluster as well as non-cluster regions). The sample includes 11,360 firms across 89 clusters as well as non-cluster regions of Germany for the time-period 2011 to 2013. The analysis utilises probit model regressions on the likelihood of becoming a HGF focusing on business cluster and productivity drivers, moderating effects of intangible assets and patents as well as including a host of control variables, such as firm size, firm age, capital intensity, level of competition in the region.

3.1.1. High-growth firms

In this paper, we adopt the definition of firm employment growth to describe high-growth incidence. In particular, for firms with 10 employees and more, we adopt the compounding annual growth calculation consistent with the Eurostat-OECD definition (2007, cited in Jun and Temouri, 2015), that classify a business as a HGF if the company employs at least 10 employees at the start of the growth period, and experience an annual average growth in employment of 20% or more over a 3-year period. For companies with fewer than 10 employees, we rely on the small HGFs definition suggested by Clayton et al. (2013, cited in Jun and Temouri, 2015), which captures firms with fewer than 10 employees and grow by more than eight new employees over a three-year period.

3.1.2. Business clusters

Following the theoretical review discussed above, and the established empirical literature on the identification of business clusters, we consider the definition of industry clusters with two main dimensions, including geographical proximity and industry specialization to identify firms who are part of a business cluster (Hannan and Freeman; 1977; Audretsch and Feldman, 1996; Porter, 1998; Delgado, Porter, and Stern, 2014; Kelchtermans, Neuciu and Teirlinck, 2019). This method also enables us to classify different types of business clusters in terms of industry specialization. We establish a three-stage procedure to identify business cluster firms. First, we detect reference municipalities for recognized business clusters in Germany, based on business cluster map and list from Federal Ministry for Economic Affairs and Energy of Germany (see Appendix 1). Second, we rely on NACE industrial codes (industrial activity classification as defined by Eurostat) for industry specialization of each business cluster. Third, we match reference municipalities with the corresponding NACE codes to identify cluster-located firms. After that, we are able to detect non-cluster firms in the dataset. This way is compatible with quantitative econometric analysis developed

therein.

3.1.3. Drivers of productivity

In this paper, a number of drivers of productivity are investigated. First, MNE share is included to distinguish the effect of a higher share of domestic and foreign MNEs on the relationship of business cluster ecosystems and HGFs incidence. Second, Total Factor Productivity (TFP) that captures changes in output after controlling for differences in inputs is chosen. Third, IATA, which is calculated by dividing intangible assets by total assets is utilized as a proxy variable for the investment in intangible assets as suggested by Jones and Temouri (2017). Fourth, the number of patents are used as one of the drivers of productivity in this paper.

3.1.4. Explanatory variables

We use a set of explanatory variables, including firm age (the age of a firm calculated since the year the company was incorporated), firm size (measured by annual turnover as suggested by Jones and Temouri (2016)), Herfindahl index (known as an indicator of the amount of competition among firms in the same industry), and Return on Assets (ROA). Those variables are discussed in the work by Evans (1987), Dritsakis et al. (2006), Mazzucato and Parris (2015), Monteiro (2019), Eklund (2020) as determinants of firm growth.

3.2 Empirical model and specifications

We employed probit regressions on a dichotomous variable (HGF vs. non-HGF), with results reported as marginal effects. Equation (1) depicts the empirical model for the first hypothesis about the relationship between business cluster ecosystems and the likelihood of becoming HGFs.

$$HGF_{i,t} = \beta_0 + \beta_1 ClusterEcosystem_i + \sum \beta_2 Firm_{i,t} + \sum \beta_3 Industry_{i,t} + time_t + \varepsilon_{i,t} \quad (1)$$

Where i denotes firm, t denotes time (i.e., year) and ε indicates the random error term representing all unobserved influences. In equation (1) the dependent variable HGF represents the employment growth of a firm (i) at time (t), that offers a proxy for entrepreneurship in the context of this paper. β_1 is the coefficient of primary interest as it quantifies the impact of being located in business clusters on achieving high growth entrepreneurship. The vector $Firm_{i,t}$ captures a number of firm characteristics such as firm age, firm size, Herfindahl index, and ROA. The vector $Industry_{i,t}$ includes industry dummy variables at two-digit NACE level as proposed by Eurostat definition. The time dummy variable covers a research period from the year 2010 to the year 2013.

Hypothesis 2 about different types of business cluster ecosystems and HGF incidence is tested, using an equation in the following form:

$$HGF_{i,t} = \beta_0 + \beta_1 ClusterType_{i,t} + \sum \beta_2 Firm_{i,t} + \beta_3 \sum Industry_{i,t} + time_t + \varepsilon_{i,t} \quad (2)$$

The variable $ClusterType_{i,t}$ in the equation is a dummy variable with different categories of clusters (based on industrial specialization). Accordingly, β_1 quantifies the impact of different types of business clusters on the likelihood of becoming HGFs.

Hypothesis 3 about the share of domestic and foreign MNEs in business clusters and the likelihood of becoming HGFs is tested by using the following equation.

$$HGF_{i,t} = \beta_0 + \beta_1 Cluster_{i,t} + \beta_2 MNE_{i,t} + \beta_3 Cluster_{i,t} * MNE_{i,t} + \sum \beta_4 Firm_{i,t} + \sum \beta_5 Industry_{i,t} + time_t + \varepsilon_{i,t} \quad (3)$$

In specification (3), an interaction term between business cluster and MNE share is included to verify the moderating effect of the MNE share on the correlation.

We then include the interaction term of TFP into specification (4) to verify the moderating effect of productivity on the correlation between business cluster ecosystem and the likelihood of becoming HGFs. The model is as followed:

$$HGF_{i,t} = \beta_0 + \beta_1 Cluster_{i,t} + \beta_2 Productivity_{i,t} + \beta_3 Cluster_{i,t} * Productivity_{i,t} + \sum \beta_4 Firm_{i,t} + \sum \beta_5 Industry_{i,t} + time_t + \varepsilon_{i,t} \quad (4)$$

Hypothesis 5 about the impact of intangible assets on the HGF incidence is tested by using the following equation:

$$HGF_{i,t} = \beta_0 + \beta_1 Advanced Cluster_{i,t} + \beta_2 Intangible_{i,t} + \beta_3 Advanced Cluster_{i,t} * Intangible_{i,t} + \sum \beta_4 Firm_{i,t} + \sum \beta_5 Industry_{i,t} + time_t + \varepsilon_{i,t} \quad (5)$$

The variable $Advanced Cluster_{i,t}$ is a dummy variable to denote those clusters that are known to be in high-technology industries and sectors.

Hypothesis 6 about the impact of patent on HGFs for firms in advanced business cluster ecosystems compared with less advanced business cluster ecosystems is tested by using the equation as followed:

$$HGF_{i,t} = \beta_0 + \beta_1 AdvanceCluster_i + \beta_2 Patent_{i,t} + \beta_3 Advanced Cluster_i * Patent_{i,t} + \sum \beta_4 Firm_{i,t} + \sum \beta_5 Industry_{i,t} + time_t + \varepsilon_{i,t} (6)$$

4. RESULTS

Table 2 demonstrates the correlations matrix with the values ranging from -0.11 to 0.33. That shows a very weak correlation between our variables. Therefore, multicollinearity is not a problem. Table 3 reports the results of marginal effects for equations (1)-(6). Column (1) exhibits the results for the baseline model regarding cluster ecosystem membership and the HGF incidence; Column (2) corresponds to the relationship between high-tech cluster membership and the likelihood of becoming HGFs; Column (3) presents the results related to MNE share in clusters; Column (4) indicates the results of productivity in clusters in the context of the HGF incidence; Column (5) shows the results of intangible assets to total assets (IATA) in clusters; and Column (6) presents the results related to patents in the context of the likelihood of becoming HGFs. For each variable, two rows of numbers are displayed. The first row presents the coefficient, and the second shows the standard error.

With respect to Cluster ecosystem membership, the coefficients of the business cluster variable in specifications (1)-(5) are positive and significant at 1 percent level. The coefficients ranging from 0.022 to 0.0449 imply that being located in business clusters increase the likelihood of becoming HGFs by 2.2 percent - 4.49 percent. The result indicates a significantly important role of cluster ecosystem on firm to become a high-growth entity. That is consistent with our hypothesis 1 that firms who are part of business cluster ecosystem have a higher likelihood of becoming HGFs.

To compare the impact of high-tech cluster membership, the variable High-tech and the corresponding interaction term are included in regressions. Interestingly, while the coefficients of high-tech variable is not significant, the coefficient of the interaction terms is significant at 1 percent level, confirming the moderating effect of cluster in the relationship between high-tech firms and their likelihood of becoming HGFs. The negative and precisely determined coefficients of the interaction terms between the high-tech variable and the cluster dummy indicate that the effect of high-tech firms outside business clusters is stronger than that inside business clusters.

In terms of MNE share, the results show negative and significant coefficients at 1 per cent level. The finding suggests that the more international a firm is, the less likelihood of becoming HGFs the firm will experience. This is an intriguing finding and might be explained due to the fact that multinational firms normally reach a high level of growth already. With regards to productivity, the coefficient of the productivity variable is negative and significant at 10 per cent level, implying that

productivity exerts negative and significant effect of HGF incidence. Intriguingly, the coefficient of the interaction term between cluster and productivity becomes positive and strongly significant at 1 per cent level. The result is consistent with hypothesis 4 that more productive firms located in business cluster ecosystems have a higher likelihood of becoming HGFs.

To explore the impact of investments in intangible to total assets on HGFs and the moderating effect of business cluster, the IATA (Intangible assets by total assets) variable and the interaction term between cluster, high-tech and IATA are included. While the coefficient of IATA is positive and significant at 1 per cent level, the coefficient for the interaction term is not. That offers support to the fact that investments in intangible to total assets is very significant to the HGF incidence of a firm. The result confirms past study by Denicolai et al. (2014) that the extent of the HGF incidence of a firm is positively dependent on the value of its intangible assets.

Regarding the number of patents, our empirical result shows a negative and significant coefficient at 10 per cent level. Whilst, the result does not confirm the moderating effect of cluster on the correlation between the impact of patents and HGFs incidence. The coefficient of the variable patent reveals that the larger number of patents owned by a firm might reduce the likelihood of a firm to become a HGF. This finding warrants further investigating in future research.

Turning to explanatory variables, all control variables are lagged for one-year period. Coefficients for such variables as firm age, firm size, tangible assets, Herfindahl index, and Foreign Ownership are statistically significant at 1 per cent level. The coefficients of firm age and firm size are negative, indicating that small and young firms are more likely to become HGFs compared to large and old firms. The coefficients for tangible assets are positive, highlighting that firms with higher level of tangible assets are more likely to have higher HGF incidence. The positive coefficients of Herfindahl index reveal that the higher amount of competition among firms in the same industry contribute to the higher likelihood of becoming HGFs. The positive coefficients of the variable Foreign Ownership show that firms with the share of foreign ownership of at least 50% in the emerging market are more likely to become a HGF. The results are in line with discussion on determinants of firm growth in the work by Evans (1987), Dritsakis et al. (2006), Mazzucato and Parris (2015), Monteiro (2019), Eklund (2020).

5. DISCUSSION, IMPLICATIONS, AND FUTURE RESEARCH

In this study, we set out to examine the role of business cluster ecosystems and the drivers that help achieve firms become high growth entrepreneurship entities. Our findings confirm that cluster ecosystems, like EEs, facilitate the development of HGFs. We find that the higher the competition in the ecosystems, the more HGFs are developed. As Autio et al. (2018) suggest, EEs should be viewed

as a digital economy phenomenon that emphasizes cutting-edge technologies. Our findings support this assertion as we find that high-tech firms have a higher incidence of becoming HGFs.

Another interesting finding relates to the inverse relationship between the international diversity of firms and their opportunities to become HGFs. The exception being those firms that have at least 50% ownership in emerging markets. One possible explanation could be that the policy regime and institutional environment in many emerging economies is evolving and can be tailored to attract and facilitate innovative firms. Hence, these firms can take advantage of lower bureaucratic costs than existing rigid policy regimes in some developed economies.

We also find that small and young firms in the EEs are more likely to become HGFs. This is consistent with the literature suggesting that entrepreneurial ventures will thrive when they are provided with a dynamic environment and given the freedom to disrupt the status quo and implement unique and innovative business processes and practices (Block et al., 2017).

Finally, we find firms with high knowledge resources (represented by the intangible and tangible assets they have) are likely to have HGF incidence. Our findings suggest that both tacit and explicit knowledge is critical for firms to achieve high growth. However, one cannot judge the knowledge and its worth merely by patent registration as our findings suggest that firms with large number of patent registrations are less likely to become HGFs.

The paper contributes to the literature by developing the interrelationship of business cluster location, productivity drivers and high growth entrepreneurship. Empirically, this paper utilizes a very detailed dataset with a wealth of rich information, not been exploited in its entirety before. In addition, this is among the first of its kind that uses all this information combined in order to shed light on the above-mentioned research objective. Furthermore, one can utilize the results emanating from this study to outline a number of important avenues for future investigation. These would include findings at the intersections of entrepreneurial ecosystems such as business clusters, technological or productivity measures. Further, our results throw light on the influence at firm-level growth trajectories.

5.1 Theoretical implications

Theoretically, our study portrays how learning possibilities for a firm are not homogeneous across supply chain partners (Isaksson, Simeth & Seifert, 2016). We argue that when there is exchange of such asymmetrical knowledge within business clusters, there is facilitation of the process of sharing ideas and knowledge. Firms are prompted to learn from other actors, leading to the creation of new knowledge over time. A truly operating cluster continuously enhances its knowledge base, thereby enabling cluster members to possess higher strategic flexibility and faster response to market changes compared to outsiders (Curado, 2006). Put it another way, companies outside clusters are less likely

to have a supportive environment to transfer information and create new knowledge quickly and freely compared to their cluster counterparts.

5.2 Managerial implications

Not all regional cluster ecosystems are the same. While extant literature does not explain why some EEs are more successful, we highlight certain drivers that can help managers choose which ecosystem they become part of. Our findings also have implications for policymakers regarding the support they provide to firms in the regional EEs, and the speed at which they provide regulatory responses to changes in the dynamic business environment.

5.3 Limitations and future research

There are a number of limitations to our study. First, we only investigated clusters in Germany, representing an advanced developed economy. However, future studies could compare regional cluster across developed and emerging economies. A second set of issues that we did not consider is how knowledge spillover occur in the cluster ecosystem? How is tacit knowledge transformed into explicit knowledge? How is the knowledge held by firms protected and how can this be measured if patents are not an accurate measure of it? It would be fascinating to see future studies that could investigate such research questions in the context of different types of clusters and entrepreneurial ecosystems. Insights into such research questions would potentially require more qualitative research methods, such as case studies, interviews and survey techniques, which would complement the evidence provided by quantitative studies.

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Table 1. Variable definition

Variable name	Variable description
Dependent variables	
High Growth Firm (HGF)	This is a dummy variable equalling 1 if a firm achieves at least 20% annual growth in employment over a 3-year period (including 10 employees at the start of the period) and zero if it does not.
Independent variables	
Cluster	A firm's membership in a cluster based on the analysis of the authors, see method section and Appendix 1.
Productivity	Total factor productivity, which is calculated as a residual of a production function for each 2-digit industry.
Intangible assets over total assets (IATA)	This is a ratio of a firm's intangible over total assets. Intangible assets are financial variables in a firm's balance sheet account and represents all intangible assets including formation expenses, research expenses, goodwill, development expenses and all other expenses with a long-term effect. Total assets are all tangible plus intangible plus other assets.
Patents	A firm's number of patents registered according to their annual accounts in a given year
Control variables	
Firm size	The natural logarithm of total number of full time employees of the firm.
Firm age	The age of a firm calculated since year of when the company has been incorporated.
Tangible assets	A firm's tangible assets, which include land, factories, machinery all other tangible expenses with a long term effect. Tangible assets is a financial variable in a firm's balance sheet account.
Herfindahl index	The Herfindahl index calculates the market share squared across 2-digit industries and is a proxy for the level of competition in each industry
Foreign firm	This is a dummy equalling 1 if the share of foreign ownership is at least 50% in the emerging market firm and zero if it is not.
ROA	A firm's return on assets drawn from the firm's balance sheet account.

Table 2. Correlation matrix

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1) Cluster	1													
(2) High-tech	0.08***	1												
(3) Cluster * High-tech	0.11***	0.18***	1											
(4) MNE	0.09***	0.06***	-0.06***	1										
(5) Productivity	0.08***	0.01	0.00	-0.03**	1									
(6) IATA	-0.10***	0.04***	-0.06***	-0.04***	0.10***	1								
(7) Patents	0.25***	0.09***	0.07***	0.02	0.02	0.11***	1							
(8) Cluster * High-tech * Patents	0.10***	0.00	0.06***	0.01	-0.03*	-0.15***	0.07***	1						
(9) Firm Age	0.16***	0.33***	0.22***	0.02	0.03**	0.09***	0.16***	-0.06***	1					
(10) Firm Size	0.11***	0.26***	0.24***	0.17***	0.06***	0.01	0.05***	-0.01	0.30***	1				
(11) Tangible assets	0.02	0.02	0.06***	-0.03**	-0.02	-.04***	0.05***	0.00	0.02*	0.08***	1			
(12) Herfindahl index	0.01	-0.04**	-0.04***	-0.06***	0.00	-0.01	-0.05***	-0.05***	0.00	-0.10***	-0.10***	1		
(13) Foreign firm	0.14***	0.24***	0.22***	0.12***	0.06***	0.03*	0.11***	-0.01	0.33***	0.08***	-0.08***	-0.08***	1	
(14) ROA	0.00	0.04***	0.01**	-0.09***	0.10***	-0.11***	-0.01	0.02***	0.01**	-0.05***	-0.09***	0.00	-0.09***	1

Table 3. Determinants of HGFs

Dependent variable =1 for HGFs; =0 otherwise	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
Hypotheses 1 (Cluster ecosystem membership)						
Cluster	0.0258***	0.0449***	0.0234***	0.022***	0.027***	0.004
	(0.00593)	(0.00980)	(0.007)	(0.007)	(0.006)	(0.006)
Hypotheses 2 (High-tech Cluster membership)						
High-tech		0.00523			-0.002	0.044***
		(0.0211)			(0.020)	(0.017)
Cluster * High-tech		-0.0171***				
		(0.00384)				
Hypotheses 3 (MNE share in Clusters)						
MNE			-0.149***			
			(0.004)			
Cluster * MNE			0.004			
			(0.008)			
Hypotheses 4 (Productivity in Clusters)						
Productivity				-0.003*		
				(0.002)		
Clusters * Productivity				0.032***		
				(0.005)		
Hypotheses 5 (Intangible to total assets in Clusters)						
IATA					0.098***	
					(0.008)	
Cluster * High-tech * IATA					-0.047*	
					(0.028)	
Hypotheses 6 (Patents in Clusters)						
Patents						-0.001*

						(0.0001)
Cluster * High-tech * Patents						-0.002
						(0.002)
Control variables						
Firm age (t-1)	-0.000430***	-0.000424***	-0.0004***	-0.0004***	-0.0004***	-0.0003***
	(4.46e-05)	(4.45e-05)	(4.57e-05)	(5.27e-05)	(4.38e-05)	(5.76e-05)
Firm size (t-1)	-0.0166***	-0.0167***	-0.016***	-0.022***	-0.018***	-0.019***
	(0.000974)	(0.000973)	(0.000768)	(0.001)	(0.0001)	(0.002)
Tangible assets (t-1)	0.00881***	0.00883***	0.008***	0.014***	0.009***	0.010***
	(0.000671)	(0.000671)	(0.001)	(0.001)	(0.001)	(0.001)
Herfindahl index (t-1)	0.0172***	0.0172***	0.017***	0.007	0.017***	0.012***
	(0.00569)	(0.00568)	(0.006)	(0.007)	(0.005)	(0.004)
Foreign Ownership (t-1)	0.00923***	0.00924***		-0.0001	0.008***	0.016***
	(0.00253)	(0.00252)		(0.003)	(0.003)	(0.003)
ROA (t-1)	-6.25e-05	-6.09e-05	-0.000153*	0.0001	0.0001	-0.0001
	(9.43e-05)	(9.37e-05)	(8.95e-05)	(0.0001)	(0.0001)	(0.0001)
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	36,296	36,296	36,296	23,103	36,396	11,658

Notes: Coefficients are marginal effects. Robust standard errors are in parenthesis. All monetary explanatory variables are lagged one year to pre-empt potential endogeneity issues. Monetary values are deflated using GDP deflators. ***, **, * indicate significance at 1%, 5% and 10% levels, respectively.

Appendix 1:



COMMUNICATION DURING THE COVID-19 PANDEMIC: A SYSTEMATIC LITERATURE REVIEW IN THE TOURISM AND HOSPITALITY SECTOR

Testa, Ginevra¹; Profumo, Giorgia²

¹CIELI Centro Italiano di Eccellenza sulla Logistica, i Trasporti e le Infrastrutture, Università degli Studi di Genova, Genova, Italy

²Department of Economics and Business Studies, Università degli Studi di Genova, Genova, Italy

ABSTRACT

Purpose - The purpose of this article is to investigate how communication has been used for the recovery of the tourism and hospitality sector during the crisis generated by the Covid-19 pandemic.

Design/methodology/approach - The paper develops a systematic literature review, on a selected sample of 44 articles. The content of the studies has been analyzed using text mining with KNIME analytical software.

Findings - The study helps to bring out how communication has been used during the pandemic, to relaunch the sector after the Covid-19 health crisis. Corporate communication in the future should focus on the right messages, enhancing new trends related to security, sustainability, digitalization, and resilience.

Research limitations - The sample of articles and the used units of analysis could be expanded in future studies to contribute to forthcoming discussions on the topic.

Practical implications - The results of the study could be used by practitioners for the creation of effective communication strategies, capable to ensure business persistence and success, even in particularly adverse conditions, like a pandemic.

Originality/Value - The study enhances the understanding of how communication has been used in the tourism and hospitality sector during the current pandemic and provides a critical account of the state of the art of the research on the topic. Moreover, the value of the study lies in providing corporate managers with up-to-date research that helps them in properly use communication to recover from the health crisis.

Keywords: Communication; Covid-19; Tourism and Hospitality Sector; Systematic Literature Review; Text Mining.

INTRODUCTION

The Covid-19 pandemic has strongly affected the tourism and hospitality industry, which has always been vulnerable to shocks of various types, such as crises caused by bad corporate management rather than external events capable of endangering people's health and safety (Breitsohl and Garrod, 2016). The latest of these crises was the Covid-19 health emergency which, compared to other more geographically localized crises, caused much deeper consequences at a global level (Dias *et al.*, 2021).

The Covid-19 pandemic generated a sharp reduction in the number of international travel and significant economic losses in the sector, especially in 2020 (UNWTO, 2022). Among the effects of the crisis, we had a huge number of cancellations, acute reductions in the number of bookings, and stronger concerns among the public, least likely to travel (Lenggogeni *et al.*, 2021). The introduction of social distancing measures (Salem *et al.*, 2022) and restrictions equal to those that occurred during the Second World War (Gössling *et al.*, 2020), required a rethinking of travel arrangements. These changes have shown that organizations, to survive such complex situations, need to implement effective communication strategies to maintain their competitive position. If the different impacts of crises have been deeply analyzed in the tourism and hospitality literature (Škare *et al.*, 2021; Foo *et al.*, 2021) less attention has been paid to the company's response strategies and the role of communication as a key to recovery.

For these reasons, the study aims to analyze the state of the art in the use of communication strategies to recover from shock events such as the Covid-19 pandemic, highlighting the new challenges arising from the crisis outbreak. Our objective is to answer the following research question: *What lessons, useful for business managers, can be drawn from the existing literature on communication strategies during the Covid-19 crisis in the tourism and hospitality sector?*

To answer the research question mentioned above, we carry out a systematic literature review to understand how communication should be used in critical situations in the tourism and hospitality sector. The study aims to highlight the communication levers already used and consolidated over time, useful for dealing with potential future crises. We carried out a text mining analysis of the studies focused on the theme, to point out the evolution of the investigated topics, their main trends, and emerging dynamics.

The paper proceeds as follows. The following section provides a description of the followed research approach and methodology. We then present and discuss the results, highlighting the theoretical and managerial implications, the limitations, and the potential future research lines.

METHODOLOGY

The chosen methodology, a systematic review of the literature, is coherent with previous studies conducted on crisis management and crisis communication (e.g., An and Cheng, 2010; Avery *et al.*, 2010; Jesson *et al.*, 2011), with the objective to understand the development of the theory. To study the extant literature, on the communication strategies in the tourism and hospitality sector implemented by the companies during the Covid-19 pandemic, we proceeded with the identification of a corpus of initial articles, the definition of a final sample of documents, and their subsequent analysis using text-mining analyses.

The collection of papers combined the use of the Scopus and Web of Science bibliographic databases to verify the effective inclusion of all relevant documents concerning the topic. The search query has included, after several refinements: (communication*) AND (tourism* OR hospitality) AND (covid* OR pandemic*). Different inclusion criteria were applied to the initial set of documents such as the chosen time frame (2019-2022) and their relevance by subject area. On Scopus, we selected the research fields related to Business, Management, and Accounting; Social Sciences; Decision Sciences; Economics, Econometrics and Finance, and Psychology. For Web of Science, the survey was limited to the items Management, Business, Communication, Economics, Social Sciences Interdisciplinary and Psychology, and Multidisciplinarity. A subsequent criterion adopted, to assess the scientific relevance of the documents, was the consideration only of journals included in the Academic Journal Guide 2021 with a score of at least 1. Finally, the congruence of the papers was assessed by reading the main parts of the documents and, with this last screening, the final sample was reduced to 44 articles.

In terms of descriptive results, most of the articles are concentrated in the year 2021 (29 documents), representing 65.91% of the total sample. The results show however a strongly growing trend in the first months of 2022, with 11 articles published only in the month of January. The principal countries of origin of the documents are Spain, the United States, and China, as they are deeply affected by the Covid-19 pandemic (Johns Hopkins, 2020).

The analysis of the content of the papers has been performed applying the text mining technique, together with the topic modeling analysis. Text mining presents a multidisciplinary perspective, which is why it has already been extensively used in management studies (Yang and Han, 2021) and the tourism business (Garner *et al.*, 2022). It is a technique that allows the discovery of hidden knowledge and patterns by collecting words and phrases, extracted from the investigated documents (Usai *et al.*, 2018). The units of analysis included in our study are the title, abstract, and keywords of the articles. These units have been analyzed on KNIME, an analytical software suitable for the extraction and transformation of knowledge from structured and unstructured data (Humphreys and Wang, 2018). A Topic Detection analysis was implemented to explore latent topics from the initial corpus of documents

and, to proceed with this investigation, we started by loading the information into the KNIME workflow and processing it. We followed the different phases of the analysis of text mining (Figure 1) such as access, enrichment, transformation, word extraction, analysis, and graphical display of data (Thiel *et al.*, 2016). Only after the processing of the information, has it been possible to proceed with the extraction of topics. In this regard, the LDA algorithm has been used to derive the hidden thematic structures (Silipo, 2021) and, with the use of different nodes, graphical representations have been obtained, allowing a better clarification of the results (Ordenes and Zhang, 2019).

RESULTS

From the implementation of the workflow, presented in Figure 1, we have obtained the following graphical visualizations.

In the Cloud Tag chart, the size of words corresponds to their frequency in the overall body of documents. The most used words are, as expected, Covid-19, tourism, communication, crisis, pandemic, and travel. Furthermore, the words management, hospitality, media, destination, risk, message, health, safety, and resilience also seem to be crucial communication levers. The different colors underline the different clusters that appear in the text (Figure 2).

The “Group By” node allows understanding of the relationships between the words by creating different topics (Figure 3). Each specific topic represents a common theme emerging from the articles, useful for understanding how scholars have studied communication strategies in the tourism and hospitality sector during the current pandemic and providing lessons on how to recover from critical situations related to a pandemic. In this way, 8 macro-themes were identified, and it was possible to summarize them as follows:

- Topic 0: "Recovery strategies in the short term";
- Topic 1: "Emotions and content of the messages";
- Topic 2: "Destinations and recovery strategies in the long term";
- Topic 3: "Resilience and adaptability";
- Topic 4: "Perception of risk, safety and travel intentions";
- Topic 5: "Customer experience redesign and adoption of new technologies";
- Topic 6: "Intra-organizational communication";
- Topic 7: "Role of social media and content co-creation".

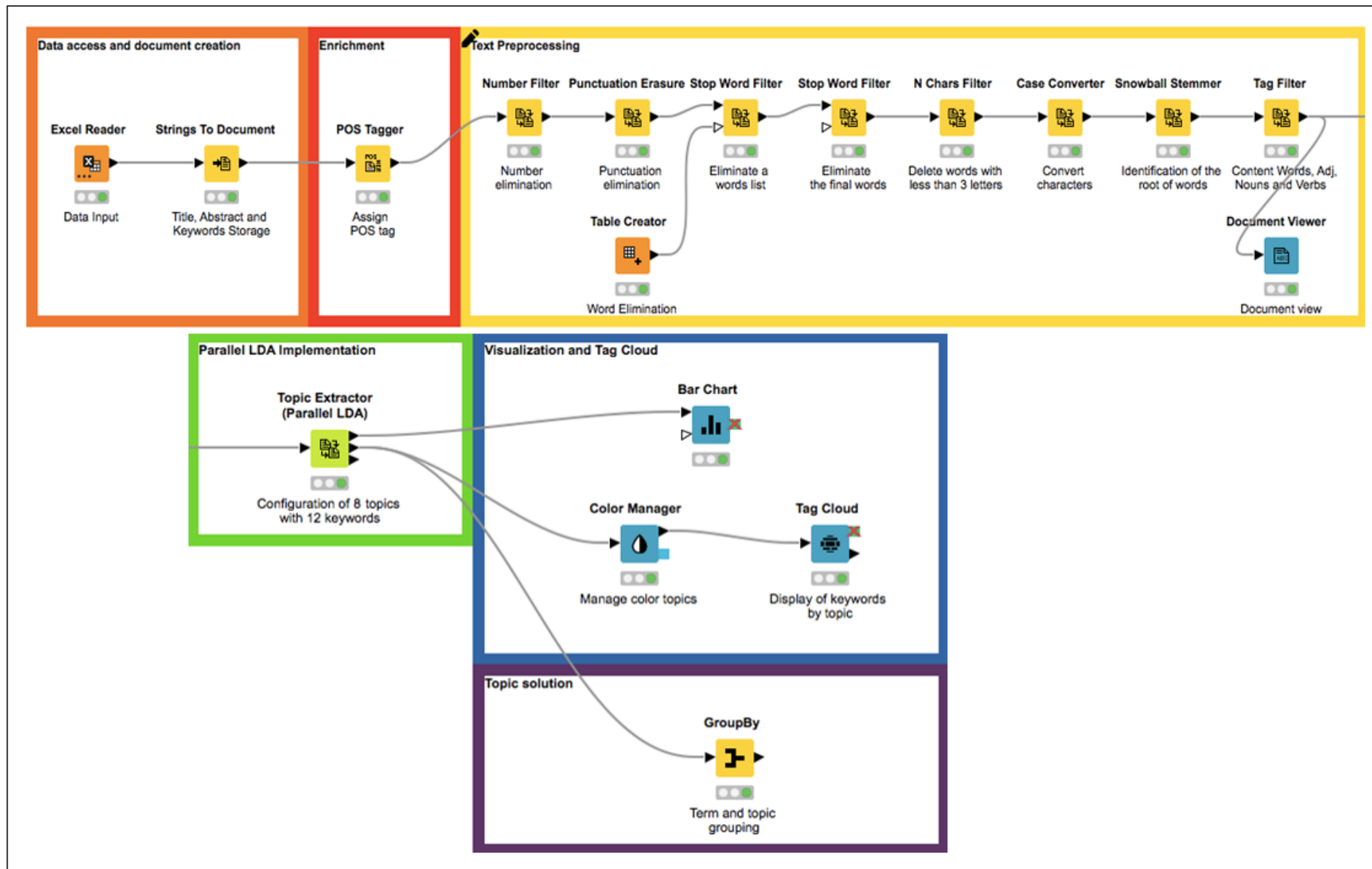




Figure 2. *Graphic representation of Tag Cloud node*

Row ID	S Topic id	S Concatenate(Term)
Row0	topic_0	tourism, pandem, provid, futur, countri, econom, impact, travel, conduct, cultur, issu, academia
Row1	topic_1	tourist, onlin, hospit, emot, covid-19, stage, chang, studi, period, base, platform, cope
Row2	topic_2	destin, tourist, pandem, tourism, resid, manag, local, visitor, recoveri, featur, forecast, reput
Row3	topic_3	busi, hospit, entrepreneur, resili, educ, patient, adapt, provid, skill, us, orient, care
Row4	topic_4	covid-19, travel, impact, commun, pandem, tourism, risk, percept, influenc, intent, health, co...
Row5	topic_5	custom, polici, cruis, servic, measur, experi, busi, covid-19, robot, complaint, design, public
Row6	topic_6	crisi, commun, manag, employe, strategi, organiz, provid, crise, hotel, safeti, recoveri, respons
Row7	topic_7	media, crisi, social, covid-19, messag, commun, strategi, respons, engag, practic, user, content

Figure 3. *Linking terms resulting from Group By node*

Topic 0: recovery strategies in the short term

Tourism must be rethought and reshaped according to the new normal, using this crisis as a trigger for change (Fernández *et al.*, 2022). The recovery strategies adopted in the short term of the crisis were mainly linked to the management of reimbursements and cancellations, which occurred in large quantities, in relation to the spread of the infection (González *et al.* 2021). In this sense, companies had to listen to the public to create an appropriate mix of policies to face all the possible situations (Villacé-Molinero *et al.*, 2021): the response communication messages have been one of the pillars of the recovery strategies. Despite the enormous economic effort in managing these policies, effective corporate responses to complaints have contributed to maintaining corporate competitiveness and customer satisfaction (Zha *et al.*, 2022), reducing any negative word of mouth, and reassuring the public (Liu *et al.*, 2021).

Topic 1: emotions and content of the messages

Communication strategies must be aimed at reactivating the intention to visit certain destinations, even after particularly difficult moments in which worries and fears spread (Li *et al.*, 2022). As argued by Coombs (2007), the evaluation of emotions is essential to contain negative impacts and establish an emotional attachment with the target audience (Hang *et al.*, 2020). This will make it easier to persuade the public to book and travel again, maintaining their physical and mental well-being (Volgger *et al.*,

2021). During crises, the speed of response and the richness of information plays an important role in shaping the knowledge and perceptions of tourists (Zheng *et al.*, 2021). Communication must be based on concreteness, quality of argumentation, and assertiveness in the type of language (Li *et al.*, 2022), conveying detailed and timely information, with the aim of reducing ambiguity and uncertainty (Cambra-Fierro *et al.*, 2022). Depending on the type of the used communication, people will be inclined to commit themselves or reject the recommended behaviors (Luo *et al.*, 2021).

Topic 2: destinations and recovery strategies in the long term

Associations and assessments inherent to a specific destination have a significant impact on tourists' behaviors (Kim S. *et al.*, 2021). These associations derive from media coverage capable of modifying risk perceptions and travel intentions towards a certain destination (Thirumaran *et al.*, 2021). Therefore, destinations that want to develop recovery strategies in the long term should take care to convey the right communication strategy in terms of health safety and adoption of appropriate regulations (Bonfanti *et al.*, 2021). This focus will influence tourists' travel decisions and their desire to revisit a particular destination (Villacé-Molinero *et al.*, 2021).

The suspension and containment of tourist arrivals in certain destinations have also highlighted the need for greater responsibility of the sector in the long term. Significant disadvantages have emerged related to excessive tourism (Kamata, 2022) and the need for more authentic experiences has increased, capable of preserving the strong local identities of the territories. More sustainable practices have been facilitated by the spread of the pandemic which has made neighboring markets more attractive (Volgger *et al.*, 2021). Despite this, the habits and preferences of international tourists will change again in the aftermath of the pandemic and, therefore, it is essential that communication campaigns adequately incentivize local tourism (Schmidit and Altshuler, 2021).

Topic 3: resilience and adaptability

This health crisis has shown that companies need greater adaptability, which can be built through transversal skills. Among these, entrepreneurial thinking, creativity, and risk-taking stand out: elements necessary to build business resilience (Joshi and Gupta, 2021). In hospitality entrepreneurs, resilience has always been a key skill as they have had to ensure a positive, rapid, and effective response to various market disruptions (Hallak *et al.*, 2018). The entrepreneurial ecosystem is essential (Dias *et al.*, 2021) to foster an environment in which communication allows the creation of networks between various stakeholders, in which strategies and activities can be shared to stimulate social capital. The most effective way to limit the negative effects of a crisis is to constantly strengthen responsiveness, through systematic organizational preparation and formulation of specific risk management strategies (Schmidit and Altshuler, 2021). The corporate commitment toward this

direction must be correctly externally conveyed to stimulate trust in the public and stakeholders, especially in adverse moments (Fernández *et al.*, 2022).

Topic 4: perception of risk, safety and travel intentions

The Covid-19 pandemic has highlighted the crucial role of the perceived risk for consumers as it is strongly connected with the behavioral responses and the assumption of protective behaviors (Sánchez-Canizares *et al.*, 2021). Individuals' concerns play a significant role in determining the perception of health risks during travel and their quest for safety, affecting also tourists' intention to travel and their willingness to visit specific affected destinations. Hence, the communication strategies of tourism and hospitality firms should focus on messages related to these topics in order to lower the risk perception of tourists. In particular, the messages should be aimed at transmitting the safety protocols implemented to lower the health risk of the pandemic (Bonfanti *et al.*, 2021). Risk communication becomes also risk education: people that understand the measures to be taken and the use of high-risk communication will bring more attention to these practices, avoiding the transmission of the infection (Cheng *et al.*, 2021).

Topic 5: customer experience redesign and adoption of new technologies

The tourism and hospitality sector, during the Covid-19 pandemic, underwent a structural change (Dolnicar and Zare, 2020), leading the industry to approach the digital world to contain human contacts and guarantee social distancing and safety (Lu *et al.*, 2021; Seyitoglu and Ivanov, 2021). This has necessarily entailed a rethinking of the customer experience and sociality, as fundamental elements of tourist services (Bonfanti *et al.*, 2021). These reconsiderations have been achieved through the use of information and communication technologies able to make tourist destinations smart (Chen *et al.*, 2021) and to aggregate data from infrastructures, social connections, and organizations, in order to keep the crowding of destinations under control while respecting social distancing. In this sense, many operators have introduced electronic tools for self-check-in and self-check-out, or online booking systems that have greatly reduced queues and, using apps / QRs, have allowed customers to benefit from specific services (Bonfanti *et al.*, 2021). The adoption of these emerging technologies offers the possibility to ensure a better travel experience, maximizing the benefits for all those involved in the co-creation of value (Zhang *et al.*, 2018). The value must be adequately communicated to the public to make them perceive the greater security guaranteed by the company, as well as to help familiarization with technologies (Becker and Jaakkola, 2020).

Topic 6: intra-organizational communication

In a pandemic scenario, internal communication within the organization is essential to transmit transparent directives aimed at adopting all the behaviors necessary to promote a climate of safety (Kim M. *et al.*, 2021). Hospitality managers must be able to motivate their employees to take

appropriate measures to overcome the emergency (Guzzo *et al.*, 2021). Transparent communication creates awareness in staff, increasing their motivation in complying with procedures (Park *et al.*, 2020). Since the crisis is a process that evolves, the management attitude must also change over time, modifying the tone of the messages in relation to the evolution of the situation (Wong *et al.*, 2021), and monitoring staff stress (Cheng, Wei *et al.*, 2021). Trust in the organization can influence attitudes such as commitment, citizenship behavior, and job satisfaction, elements that can create a strong sense of community and a powerful social contact between the members of the organization, even during a crisis. These practices will lead to compliance with the recommended behaviors and therefore to an increase in the quality of the offered service, generating trust among the public (Yuen *et al.*, 2021).

Topic 7: role of social media and content co-creation

The Covid-19 pandemic has once again made it clear how important social media are, especially in managing a crisis (Gretzel *et al.*, 2020). These channels play an important role in terms of sharing information and maintaining relationships with the public, making communication much more interactive than in the past (Park *et al.*, 2019). Companies, able to engage their customers on these platforms, will be more likely to survive during adverse times (Li *et al.*, 2022). Therefore, it becomes essential to combine traditional channels and digital channels in corporate communication (Cambra-Fierro *et al.*, 2022). To alleviate the stress and fear of the pandemic, the communication style adopted by many tourism companies has been humorous and used as a coping mechanism (Azer *et al.*, 2021). This has been particularly true during the first phases of the crisis, which have been difficult on an emotional level (Lenggogeni *et al.*, 2021).

Recently, new figures have emerged, such as the Travel Influencer, able to increase the intention to visit a destination, because perceived as experts in the subject and able to publish more attractive, reliable, and truthful content (Femenia-Serra *et al.*, 2022), developing greater attention towards the offered tourist products (González *et al.*, 2021). Their content may generate excellent word of mouth and public engagement (Femenia-Serra *et al.*, 2022), allowing to rekindle the desire to travel and increase the market share for certain experiences (Seçilmiş *et al.*, 2021).

DISCUSSION

This study provides a complete overview of extant theoretical knowledge on the strategies used to face the outbreak of the Covid-19 pandemic in the tourism and hospitality sector. Such strategies may be useful in future crises that could affect the sector, but some issues and communication tools could help companies to improve their corporate communication in a broader way.

The implemented corporate communication strategies may be divided into immediately achievable practices, operating in the short term, and strategies that require a broader organizational commitment.

The first ones are intended to reassure the public and to understand the recent emerging needs, generated by the new normal (Villacé-Molinero *et al.*, 2021). While the latter ones are aimed at redefining the business with its various touchpoints, bringing the sector closer to digitization and greater tourists' participation (Lu *et al.*, 2021). These aspects influence the creation of the content, the used language, and the development of technology, with the aim of maintaining trust among the public and preserving the company's reputation (Fernández *et al.*, 2022). Social media are particularly suitable for transmitting quick information to a large audience, understanding their emotions, and stimulating two-way communication (Park *et al.*, 2019). Furthermore, this review did not neglect the importance of internal communication within the organization, which is useful for defining a climate of safety and trust and for transmitting the right messages during a crisis.

Previous systematic literature reviews on the theme examine single communication topics, such as the point of view of tourist destinations (Cambra-Fierro *et al.*, 2022), intra-organizational communication (Wong *et al.*, 2021), or the role of risk (Cheng *et al.*, 2021). Therefore, the major contribution of our study is the consideration of all these elements in the corporate communication strategy of tourism and hospitality companies, to ensure business continuity and success.

CONCLUSIONS, IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH

From a theoretical point of view, this study aims to synthesize previous theoretical notions on communication strategies during the Covid-19 pandemic in the tourism and hospitality sector, to consolidate pre-existing knowledge and update it. From a management point of view, however, the literature review favors an adequate use of communication in all its aspects, leveraging the new opportunities created by the pandemic and which will be able to revolutionize this business in the coming years.

In the future, it could be interesting to understand which communication levers will consolidate over time. If in the early stages of the pandemic, companies used communication to reassure the public and ensure maximum safety, once the pandemic is over, it is likely that companies will turn their communication efforts back to innovation and entertainment.

Despite the breadth of the lessons that emerged, the study contains some limitations that may be overcome by future studies. The first limitation is related to the small sample of analyzed documents; in the future, the sample of documents could be broadened by considering journals not included in the AJG rankings or other types of documents. A second limitation of the research refers to the units of analysis explored in KNIME which could be enriched using other available meta-information, such as the full content of the studies.

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ARTIFICIAL INTELLIGENCE FOR AGRI-FOOD. A LITERATURE REVIEW

Trabelsi, Meriam; Casprini, Elena; Fiorini, N.³; Zanni, Lorenzo

Department of Business and Law, University of Siena, Siena, Italy

ABSTRACT

The world is shifting with a high speed to a smarter, better functional, more sustainable, with higher efficiency and effectiveness levels thanks to the modern technologies, IoT, and artificial intelligence (AI). These trends have been studied in several industries and fields. This paper serves not only to highlight the academic contributions on artificial intelligence and its' related recent smart technologies in the agri-food sector but also provides an interpretative framework that captures future research avenues as well as to inspire practitioners of different AI approaches in agri-food sector.

For this purpose, two different review methods are used. The first consists of a bibliometric analysis on 81 papers identified over 332 academic contributions on the Scopus database. The second method employed is a systematic review. This is conducted on the most cited publications to highlight the theoretical lens adopted, methodologies and findings.

Keywords: artificial intelligence, literature review, bibliometrics, agri-food, systematic literature review

INTRODUCTION

Over the years, technology has not only been shifting every aspect of our daily life to make it better and easier, but also multiple sectors and industries have evolved and flourished thanks to technologies used behind the scenes, majorly artificial intelligence (AI).

Artificial intelligence is a vast field that invokes multiple facets such as sensing, modeling, planning, and action, as well as decision-support systems, natural language perception, analytics, and robotics (Camaréna, 2020). AI, its' applications and its impact have been under the loop of researchers since 1950 (Nayal, Raut, Priyadarshinee, *et al.*, 2021; McCarthy, 2004) since Alan Turing drove the attention to the subject by questioning machines' ability to think in his research paper "Computing Machinery and Intelligence" (Turing, 1950), and ever since AI has gained the spotlight over time (Dolgui *et al.*, 2019; Nayal, Raut, Priyadarshinee, *et al.*, 2021).

Nowadays, AI plays a major role and drives growth for multiple sectors including of the most important industries the agri-food, but its potentialities are still underexplored and underestimated.

Actually, two main challenges must be faced: i) to explain to many entrepreneurs, in particular in those sectors where SMEs prevail, what is AI and what are the potential advantages of its usage; ii) to adapt and combine AI strategies in a more complex and dynamic environment where traditional operational solutions and innovative strategies have to find a new equilibrium.

Agri-food sector presents some peculiarities that make AI particularly appealing for agri-food companies along the whole supply chain. Climate change, world population (expected to reach 9.7 billion by 2050 (UN, 2019), food deterioration, changing consumers' food preferences and trends that evolve specific diets, such as sustainable diets (Pucci et al., 2022), create the need for faster and more efficient production quality and quantities. These reasons combined are the main drivers of AI full integration in the agri-food sector.

However, due to the novelty of the topic in management field and the fact that recent literature reviews have focused on broader topics such as agri-food entrepreneurship (Petrolo *et al.*, 2022), food value chain and open innovation (Misra and Mention, 2021) and business models for vertical farming (Biancone *et al.*, 2022), knowledge about AI in the agri-food context remain insufficient and needs more digging. There are some attempts in computer science, where scholars have analyzed extant research on AI in food, but mainly from a digital transformation perspective (Monteiro and Barata, 2021).

This paper aims to provide a literature review on AI in the agri-food from management scholars. Based on an initial analysis of 332 papers (extracted on SCOPUS database), an intellectual core of 81 papers has been identified and analyzed using a bibliographic coupling technique and a further systematic literature review has been conducted over 8 contributions. An interpretive framework is proposed to guide future research and to inspire practitioners.

ARTIFICIAL INTELLIGENCE AND ITS APPLICATION IN THE AGRIFOOD SECTOR

AI has caught the attention of researchers over the years, and multiple studies not only focused their debate on it, but also analyzed its contributions and applications to multiple sectors. AI implies in our lives and societies whenever a computer is used (Mhlanga, 2021) and it has been a topic under debate since the invention of the Turing test (Baryannis et al., 2018; Dwivedi et al., 2019). Several literature

reviews and multiple studies relevant to AI and its applications have been published (Toorajipour et al., 2021; Gao and Ding, 2022), from which several definitions of AI might be highlighted.

John McCarthy defined AI as *“the science and engineering of creating smart machines and computer software to comprehend human intelligence”* (McCarthy, 2004, p. 2).

It represents cognitive processes (Spanaki et al., 2021) and defined as computer-controlled robots' and digital computers' ability to perform tasks associated with human intelligence by the Encyclopedia Britannica's (Copeland, 2019).

Comprehending AI requires the proper understanding of its' two sides, the 'soft' and the 'hard', respectively the human intelligence (Camaréna, 2020) and the Machine Learning (ML), one of Industry 4.0 revolution related technologies (Nayal, Raut, Queiroz, et al., 2021), that is the most straightforward way to attain and accomplish artificial intelligence (Bowling et al., 2006).

Industry 4.0 usually referred to as I4.0 reflects a big range of multiple approaches that mainly include smart factory, cyber-physical systems, self-organization, new systems in distribution and procurement, new systems in the development of products and services, adaptation to human needs and corporate social responsibility (Lasi et al., 2014).

One of AI applications sector is agriculture (Mhlanga, 2021), it can provide valuable output in this sector and solve multiple problems (Spanaki et al., 2021; Yahya, 2018); however, it is not properly explored (Nayal, Raut, Priyadarshinee, et al., 2021). Indeed, AI represents one of the technologies that characterize Agriculture 4.0 which refers to the *“systems that employ drones, robotics, IoT, vertical farms, artificial intelligence and solar energy”* (Yahya, 2018, 125–145) and sensors that work as driving force for the shift from traditional agriculture into a “4.0” one (Suma, et al., 2017; Patil, and Kale, 2016).

Agriculture 4.0 spawns and analyzes data that will later play as a fundamental tool to take precise decisions and, as consequence, achieve better goals in terms of productivity, efficiency and sustainability (Araújo et al., 2021).

We could consider AI in a narrower and in a broader way. In the former, AI is simply an enabling technology, linked to Agriculture 4.0. In the latter, AI (and the broader phenomenon of digitalization) might have a deeper impact on some sectors, especially traditional ones such as agri-food, where it drives the change of business models, as well as the business structural characteristics. The several applications that AI could have within each individual function and at inter-functional levels, may ask for changes in the organizational architectures and in the competencies and skills required to be fully explored.

METHODOLOGY

In order to answer the following questions: 1) How does AI strengthen and contribute to the agriculture sector? 2) What are the main gaps in AI and Agri-food research?

This paper relies on a systematic and bibliographic literature review on AI and its application to the agri-food sector. Extant studies have shown that multiple methods can be used, but many recommend the importance of ensuring the replicability of the study (Casprini *et al.*, 2020; Palmatier *et al.*, 2018). This implies being as precise as possible when describing the steps followed. To this extent, we describe herein what the Authors did.

To fulfill the objectives of this paper and answer the research questions, we passed through different steps. The first step represents the performance of a pilot search using SCOPUS database based on the following string TITLE-ABS-KEY ("artificial intelligence" OR "AI") AND TITLE-ABS-KEY (food* OR agri*). The query was run March 15th, 2022. We filtered the results of our search to the field business, management and accounting to result with 332 publications. With the aim to exclude the marginal contribution, examples of this exclusion are represented by papers that analyze AI in marginal ways.

Based on the abstract and the title of the publication, a review was performed to exclude all the subject non-related articles. A set of inclusion criteria sketches this study. First publications must be both AI and agri-food related. Second, considering the title, the abstract and the keywords, studies must provide a direct connection to the topic. Third, only articles in English were considered. This resulted in the identification of 81 publications that represent the intellectual core of this paper. First, a bibliometric analysis is performed to be followed by a systematic one.

Over these 81 documents we performed a bibliographic coupling analysis using VOSviewer software (Van Eck and Waltman, 2010). It allows to group contributions based on the references they share: the more the overlap, the more papers are grouped in the same cluster (Casprini *et al.*, 2020; Van Eck and Waltman, 2010)

Secondly, we systematically analyzed the main contributions of the intellectual core, identifying the research questions, the theoretical lens adopted, the methodology, and the findings, the most cited 8 papers were considered as presented in Table 2 below.

Finally, we provided an integrative interpretive framework linking the main streams emerged and providing a summarized guidance for future research and practice.

RESULTS

Bibliographic coupling analysis

When performing a bibliographic literature review, reference-based analysis is the most common scrutiny used (Gao and Ding, 2022). As shown by Figure 1, 7 distinct clusters were identified presenting only 48% of the initial 81 analyzed documents and thus, only 39 publications were linked. Each cluster contained 3 to 10 publications. We ended up identifying 5 main clusters as highlighted in Table 1 and explained below.

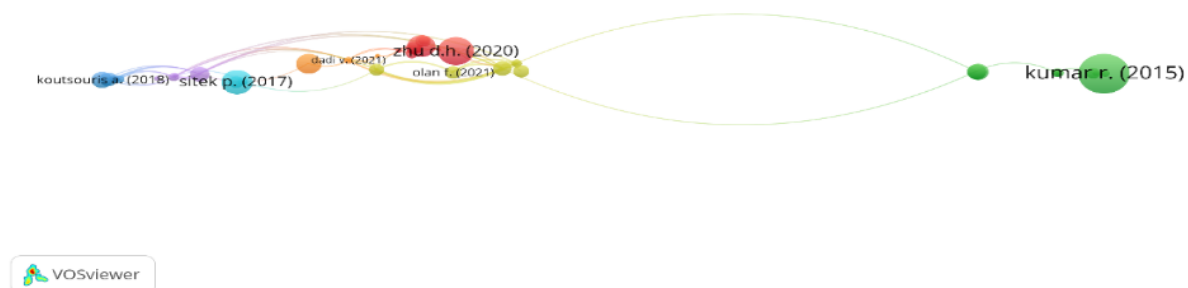


Figure 1. Bibliographic coupling clusters

Cluster 1 (red cluster) comprises 10 documents (timespan 2015-2022) and it mainly discusses consumers' acceptance of AI technologies in the agriculture and/or food sector, such as in the case of robotic chefs (Zhu and Chang, 2020), food traceability systems (Yoo *et al.*, 2015) and voice assistant during purchasing (Tassiello *et al.*, 2021).

Cluster 2 (green cluster) is made up of 9 documents (timespan 2015-2021) and refers to technologies used to increase productivity in agriculture, such as the crop yield prediction (Murugesan *et al.*, 2019), or the joint use of AI with other technologies such as sensors (Pantazi *et al.*, 2020), also focusing on specific processes such as tilling (Fawzi *et al.*, 2021) and crop selection (Kumar *et al.*, 2015).

Cluster 3 (blue cluster) is composed by 4 documents (2018-2021), that picture knowledge management and technology transfer in the referred sector. These papers are focusing on the identification of knowledge management practices that could help in diffusing technologies within farms (Mônica da Silva Zanuzzi *et al.*, 2020) as well as the obstacles (Lachman and López, 2019).

Cluster 4 (yellow) has been jointly analyzed with Cluster 7 (orange) and the newly formed cluster presents a total of 8 papers focusing on the role of AI in the food chain system (Camaréna, 2020), and on the way to achieve sustainability and fulfill sustainable development goals (Masi *et al.*, 2021).

Finally, Cluster 5 (purple) has been jointly analyzed with Cluster 6 (light blue). This cluster is most versed one as it is spanning from 2014 up to 2021. The core topics covered are: decision support systems for agriculture, as in the case of AI usage to ensure food security (Spanaki *et al.*, 2021), management of the inventory (Shukla and Jharkharia, 2014) and developed models to help farmers in harvesting and distribution (Mardaneh *et al.*, 2021).

Cluster	Timespan	N.	Principal authors	Key topics
1 Red	2015-2022	10	(Yoo et al., 2015; Zhu and Chang, 2020)	Acceptance of new technologies from stakeholders (e.g. consumers and farmers)
2 Green	2015-2021	9	(Kumar et al., 2015; Murugesan et al., 2019)	Technologies for increasing agriculture production
3 Blu	2018-2021	4	(Lachman and López, 2019; Mônica da Silva Zanuzzi et al., 2020)	Knowledge management and technology transfer
4 Yellow + 7 Orange	2010-2021	5+3	(Camaréna, 2020; Masi et al., 2021)	Artificial intelligence and new technologies in supply chain
5 Purple + 6 Light Blu	2014-2021	4+3	(Mardaneh et al., 2021; Spanaki et al., 2021)	Agriculture Decision support systems

Table 1. Bibliographic coupling clusters

Systematic analysis

In this systematic literature review, a research process will be adapted. Several methods were used in research to perform systematic studies, the four phases method designed by Denyer and Tranfield in 2009 is one of the best as it gives a clear path of the study starting by research question formulating to locating the data, and evaluating it to finally analyze it and interpret it, (Denyer & Tranfield, 2009); the same approach was adapted and updated by Toorajipour et.al in 2021 adding a pilot phase to it to be a 5-step systematic method.

In this systematic review, the latest approach is used. The first three steps regarding research question, locating the data (SCOPUS database) and data evaluation (exclusion of the study non-related publication) have been explained in the methodology section of this paper.

The fourth phase consists of data analysis and it, is reported in Table 2 below, as a first preliminary analysis over the main articles belonging to the intellectual core identified.

Table 2 provides an overview about the main research question, the methodology, the main findings for each article. The last phase is to provide a result report (Toorajipour et al., 2021) and synthesis (Denyer & Tranfield, 2009).

This analysis shows some early general considerations. First, there is a lack of theoretical lens in the articles identified. Only one of them, in fact, present a clear reference to theoretical root, namely the

agency theory (Yoo *et al.*, 2015). Second, for what concerns methodologies, we find several qualitative and conceptual papers, while quantitative papers are the rarest. Third, multiple papers highlight the importance of driving the attention to the human related aspects of AI.

Authors	Research question	Methodology	Results/main findings
(Charania and Li, 2020)	How to enable the agriculture industry to overcome challenges in improving the efficiency and sustainability of food production?	Qual	Description of several enabling technologies for smart farming
(Kumar et al., 2015)	The paper develops a new method called Crop Selection Method to maximize net yield rate of crops over season?	Quant	CSM method may improve net yield rate of crops to be planted over season
(Zhu and Chang, 2020)	what is the impact of robotic chef anthropomorphism on food quality prediction through warmth and competence?	Qual	Robotic chef anthropomorphism affects food quality prediction through the sequential mediators of warmth and competence. Age is a significant control variable.
(Sitek et al., 2017)	Which are the models and solution methods for food supply chain management problems?	Conceptual	The proposed constraint-driven approach has proved to be extremely flexible and efficient.
(Yoo et al., 2015)	What factors drive consumers' purchase of a food product that may pose health risks in conjunction with their use of a food traceability system to reduce information asymmetry in the context of this purchase decision?	Quant	Results show that when a customer has high trust in a seller, it increases his purchase intention and reduces his intention to use beef traceability systems directly through the willingness to pay a price premium.
(Camaréna, 2020)	What literature exists regarding AI in the transition to sustainable food systems (SFS)? II. What Design approaches, if any, are taken to use AI in SFS? III. Are there ethical or philosophical considerations raised in the literature?	Qual	AI is a potential leverage point to bring changes in the system and on the designer's role in establishing the human-technology-environmental relationship
(Koutsouris, 2018)	what is agriculture extension and what are its' objectives? what is the process of transforming adopting agriculture technology by farmers? what's the role of extension worker in agricultural technology transfer?	Qual	the work of agricultural extension is the basis for the development of the agricultural sector, and without agricultural extension, it does not have any benefit from modern agricultural techniques and modern agricultural information. agricultural extension is the bridge that connects farmers with agricultural research centers in order to transfer all agricultural techniques to farmers and teach them how to use them in their farms.
(Spanaki et al., 2021)	New ways of food production through the applications of AI	Quant	this research provides an indicative scenario of how swarm intelligence can contribute towards tackling food security related issues

Table 2. An analysis of some of the core contributions

AN INTERPRETIVE FRAMEWORK

What does extant studies teach us? Based on the bibliographic coupling analysis and a preliminary systematic literature review, and recurring to some recent contributions on the topic (e.g. Misra and Mention, 2021), we propose an interpretive framework, distinguishing three main dimensions across which the topic of AI could be investigated.

First, we can identify two sides of AI, the 'soft' and the 'hard'. The 'hard' side is related to the technology development, adaption and applications. The 'soft' side is characterized by all the human related sides of AI.

Beyond the need of investment in the technology development, the necessity of the technology embracement and acceptance by individuals and or firms should be studied and understood. For example, if a firm wants to adopt an AI related recent technology and exploit its' value to the fullest, a high acceptance level by its' individual and employees and an adequate usage knowledge-transfer should be assured.

To this respect, the core analysis might be due to all those human-related factors that facilitate or hinder AI adoption both at a managerial level in the firm and or supply chain level. The literature on technology acceptance and diffusion could be helpful in guiding future research.

Furthermore, an area of research might consider the "hard" side of technology (AI) management. Regarding this aspect of AI, mainly research focus on AI related applications to achieve the highest value added in terms of productivity and efficiency thus, economic results.

Second, we identified two main levels of analysis: (a) the firm and (b) the inter-firms. Within the firm, there are two sub-levels that are related to (a1) the individual function, where AI applications are used with respect to a specific value chain activity such as marketing or research and development, and (a2) the inter-functions, where AI influences multiple functions of the organization (this requires top management to rethink the whole network of relationships and activities both within the firm and across the external partners). In the case of the inter-firms, we are in front of the relationships, backward (with suppliers) and forward (with customers), that are either directly or indirectly influenced by AI. Thanks to artificial intelligence, the need to rethink and re-establish relationships among multiple parties.

Third, AI might have an impact on all the value chain activities. For simplicity, we relied on extant frameworks on the agri-food value chain, distinguishing among the R&D, production, processing, storage and distribution, sales, consumption, waste disposal and recycle (van der Vorst *et al.*, 2001). For example, (Kumar *et al.*, 2015) introduced a Crop Selection Method and proved that it can

ameliorate the net yield rate of crops over seasons. Another example may relate to the adoption of recent and smart technologies to give customers a better usage experience. The investigation performed by (Zhu and Chang, 2020) on the anthropomorphism of robotic chefs on quality prediction highlights that real consumption experience involving different cultures should be studied and robots with higher levels of anthropomorphism should be examined to give better and deeper understanding of its influence on food quality.

CONCLUSION

This paper provides a review of the literature on Artificial Intelligence in agri-food sector from a management perspective. We identified five clusters mainly to give insight about current research focus: firms, individuals and stakeholders acceptance of new technologies and artificial intelligence, supply chain related AI new technologies, knowledge management and technology transfer, agriculture productivity, and the decision support systems for agriculture. This paper adds to previous studies that have recently investigated multiple phenomena regarding agri-food sector (Misra and Mention, 2021; Petrolo *et al.*, 2022). Furthermore, we performed a systematic literature review, in which we analyzed eight of the most cited artificial intelligence and in agriculture publications. Finally, we provided an integrative framework with the aim of guiding future to better analyze and develop topic related contributions.

We think that future research should better define the theoretical underpinnings of AI in agri-food sector.

The paper is not without limitations. First, the systematic literature review has been conducted over a smaller number of papers than the whole intellectual core. Second, the Authors did a selection of 81 papers over 332. This could be subject to critiques related to subjective criteria. Third, the interpretive framework could be further refined, for example considering a more fine-grained level of analysis within each single dimension.

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A COMPARATIVE STUDY IN FINTECH ON ICOS PERFORMANCE

Trypidakis, Giorgos¹; Mihai-Yiannaki, Simona²

¹European University Cyprus, MBA Student, Nicosia, Cyprus

²Dept. Accounting, Economics and Finance, European University Cyprus, Nicosia, Cyprus

ABSTRACT

The unregulated and highly speculative nature of Initial Coin Offerings contributed to the crypto market crash of 2018 and generated distrust due to significant losses and rampant cases of fraud. Cryptocurrency market capitalization has quadrupled since then and the number of conducted campaigns has skyrocketed. This study investigates for the first time the performance of alternative models of financing through public sales of cryptocurrencies, Initial Exchange Offerings and Initial DEX offerings which utilize third party launchpads which were developed in an attempt to diminish the shortcomings of ICOs. Starting with 2020, developments on DeFi technologies enabled IDOs and shifted interest from IEOs, which were the predominant model in 2019.

Based on secondary data, we perform a cross sectional multiple case study analysis of blockchain financing models and launchpad, the proceeds of models to develop a framework for the distinction for two additional models to ICOs. Results confirm the assumption that the choice of launchpad influences the success and performance of campaigns, as the procedures of hosting campaigns are not standardized.

Results show that IDOs and IEOs campaigns generated less initial capital in average than ICOs, where issuers assume the full responsibility of effectively signaling, marketing and conducting the public sale. Launchpads are facilitated by centralized cryptocurrency exchanges in the case of IEOs and decentralized protocols in case of IDOs through complex smart contracts and DeFi mechanics. Further research and long-term studies are essential to conclusively determine the sustainability and underlying implications of each model as blockchain technology is in its adoptive stages in an ever-evolving cryptocurrency ecosystem.

Keywords: Initial Coin Offering-ICO; Initial Exchange Offering-IEO; Initial DEX Offering-IDO; cryptocurrencies, crowdfunding, crowdfunding campaign, Decentralized Finance, fintech, online entrepreneurship, electronic business.

INTRODUCTION

Enabled by FinTech, electronic businesses and SaaS companies fueled a widespread expansion of online entrepreneurship. Many entrepreneurs sought funding into large online communities of consumer-investors through crowdfunding (Kuppuswamy and Bayus, 2015). All the financial industry transformed largely via digital technologies, especially by distributed ledger technologies (DLT(Khalil, Khawaja and Sarfraz, 2021), which is the underlying technology introduced by Bitcoin (BTC) in 2009. Financial applications developed on public blockchains enable decentralization, transparency and immutability while diminishing censorship, intermediation and financial exclusion (Fisch C., 2018).

The term Initial Coin Offerings (ICO) refers to public or private sales of cryptocurrencies, usually generated from early-stage ventures that seek funding in cryptocurrencies to develop their blockchain products. In return investors receive their newly minted (generated) tokens or coins, promising a variety of future benefits and opportunities when the product or service is operational.

Despite the bitterness in the community and the drawbacks of ICOs, the concept was revolutionary and was deemed as the most compelling phenomenon to emerge from the 2017-2018 cryptocurrency environment in terms of financing (H. C. Hsieh and Oppermann, 2021).

With the rise of Decentralized Finance (DeFi), the regulatory framework that developed around exchange platforms and the investments of crypto specific VCs, crypto market has regained momentum and trust of investors (Nasdaq.com, 2020). Starting in 2020 with the advent of the Covid-19 pandemic, cryptocurrency market capitalization has decupled reaching \$3 trillion USD in 2021, from the mean of \$300 million USD of the 2018-2020 period. New blockchain technology applications and projects have increased in an exponential rate while the demand for capital to develop new projects has grown (PWC and Elwood, 2020). The number of ICO campaigns has also increased but the majority of public sale campaigns are conducted with alternative fundraising models with differentiated characteristics. These campaigns differ in terms of structure, distribution, intermediation and processes, as entrepreneurs and communities seek to correct past ICO shortcomings by learning from past mistakes.

Whilst ICOs are extensively studied in literature, we identify a gap regarding the emergence, development, characteristics and performance of alternative cryptocurrency fundraising models. It's necessary to examine and evaluate them separately as their characteristics and differences influence campaign returns and the whole range of stakeholders, yet we concentrate in this paper on a single research question:

Research Question: How do Initial Coin Offerings, Initial Exchange Offering and Initial DEX Offerings perform in relation to each other in terms of capital raised in the period 2019-2021?

LITERATURE REVIEW

According to Zetzsche et al. (2018) ICO volume has exceeded \$25 billion USD by February 2018, with a failure rate reaching 45% in 2017 and only 44.2% of startups surviving 120 days after the campaign. Despite high failure rate a plethora of projects have received millions USD in funding (Benedetti and Kostovetsky, 2018; OECD, 2019; Momtaz, 2020). Studies regarding ICO design and characteristics examine token types, features and valuation mechanics indicating that utility tokens and security tokens are assigned higher valuations by investors. Empirical studies reveal the dominance of utility tokens in the crypto markets, but other researchers don't find significant differences in funds raised regarding the type of the token (Fisch and Momtaz, 2019; Momtaz, 2020).

Other researchers argue that fintech and especially blockchain enabled crowdfunding campaigns democratize access to finance (Bollaert et al., 2021; Chen, 2018; Fisch et al., 2020). The importance of Initial Coin offerings as a new financing mechanism, as well as the process and its structure are discussed by Adhami (2018), Fisch (2018) and Momtaz (2018). There is also a wide range of papers exploring the potential and possible effects of tokenization of non-crypto assets and how it could influence businesses in the future (Chod et al., 2019; Cong, 2021; Heines et al., 2021; Sunyaev et al., 2021).

Initial Exchange Offerings (IEOs) are introduced in published literature by Doe-Bruce (2019), while Myalo and Glukhov (2019) conducted a comparative case study analysis that provides the concepts of the ICO, DAOICO a mix of ICOs and DAOs, IEOs and STOs. Security Token offerings (STO) are regulated ICOs where tokens are treated as securities regulated by SEC in USA, destined only for accredited investors, therefore are not public sales and are outside of the scope of this study (SEC.gov, 2018, Doe-Bruce, 2019).

	ICO	IEO	IDO
Counterparties	Issuer - Investors	CEX - Issuer - Investors	Platform - Issuer - Investors
Vetting Process	No vetting process as issuers assume full responsibility and control	CEX vets the project	Depends on platform and procedures
Smart Contracts	Project creates and operates smart contracts / Pre-minted tokens	CEX creates smart contracts / Pre-minted Tokens / off chain procedures	Smart contracts created and operated by DEX or Launchpad
Fundraising	On dedicated website / Issuers handle investor' funds	on CEX Platform / CEX handles investors' funds	Investors' funds are handled by open-source smart contracts created by launch platform
KYC/AML	Optional	Mandatory	Depends on platform
Token Listing	Not guaranteed	Guaranteed listing on CEX	Permissionless listing by creating pools on Launchpads or DEXs
Liquidity	DEX or if when listed	Provided by CEX and Institutions	Provided by pool creator and DeFi users
Supervision	No supervision	CEX supervision / CEXs are regulated	No supervision but procedures are embedded on open-source smart contracts

Table 1. ICOs vs IEO and IDO / Launchpad implications in campaign performance

ICO:

Issuers create their blockchain product or decentralized application, publish a whitepaper, generate the majority of tokens and distribute them to investors through an on-chain wallet and simple smart contracts in return for prominent cryptocurrencies. Investors send funds to a specific address and receive the new tokens in their wallets without any regulatory supervision, bureaucratic processes or institutional intermediation (Gurrea-Martínez and Remolina, 2019; Kaal, 2021). A direct exchange of value occurs, with issuers assuming full responsibility for sale, distribution, management, marketing and smart contracts construction, while exchange listing is not guaranteed.

IEO:

Are campaigns conducted off-chain, on centralized cryptocurrency exchanges, that act as intermediaries between issuers and investors, also guaranteeing exchange listing after launch. Tokens are minted before the public sale and utility tokens or coins are sold to investors through the exchange platform. Investors are benefited by simplified access, guaranteed listing and a form of trust induced by the enforced regulatory compliance on cryptocurrency exchanges. Issuers are benefiting from the infrastructure, user-base and reputation of the exchange, also sharing the effort and cost of pre-fundraising. Exchanges are benefited with increased trading fees, increased traffic and exclusive listings (Doe-Bruce, 2019; Myalo and Glukhov, 2019; HackerNoon.com, 2021; Cointelegraph.com, 2021).

IDO:

Are an increasingly decentralized, accessible, risk averse and more sensible version of ICOs, enabled by recent developments on smart contracts, DeFi protocols and POS chain mechanics that ensure transparency, disintermediation, secondary listing and immediate liquidity through DEX liquidity pools. Tokens are issued through liquidity pools initiated by the project, governed by permissionless smart contracts offering immediate liquidity after sale ends, while the plethora launchpads offer, additional DeFi incentives and flexible financing solutions with a variety of sale structures and issuance models, such as fixed price pools, Dutch auctions and staking mechanics, for different market niches and public blockchains. Improving the ICO model by embedding all sale procedures on smart contracts built by the Launchpad or by integrating other protocols, inducing trust, reducing centralization, counterparty risk and moral hazard for all stakeholders.

Determinants of Success

Determinants of financing success of ICOs are examined by a wide range of empirical studies, providing correlations to traditional financing methods such as crowdfunding and IPOs (Hackober and Bock, 2021; Choi, 2020; Hashemi Joo et al., 2019; Ofir and Sadeh, 2019; Yadav and V., 2020), including characteristics of human capital, venture reputation and size, quality of business model,

project design and marketing but are additionally influenced by technological and structural factors, such as quality of code, decentralization, transparency, quality of whitepapers, participation of institutional investors, social media activity, market sentiment and tokenomics (Adhami et al., 2018; Domingo et al., 2020; Liu and Wang, 2019; Masiak et al., 2020; Momtaz, 2018; Roosenboom et al., 2020; Schaefer and Strese, 2021; Sousa et al., 2022).

ICO campaign success and performance is measured by Benedetti and Kostovetsky (2018) and Momtaz (2020) using first-day returns and underpricing, by Hsieh and Oppermann (2021) calculating initial returns, by Amsden and Schweizer (2018) examining total value raised, while all argue that measure of punctual success is long term performance. It is achieved when tokens are listed on an exchange platform and traded with considerable volume, as exchange listing is a critical milestone for every cryptocurrency project, confirmed by Ante and Meyer (2021) and Lyandres et al. (2018) who examine volatility, exchange listing and cross-listing returns.

Information Asymmetry, Signaling Theory

Studies on disclosure, information asymmetry and signaling theory (Aslan et al., 2021; Chen, 2019; Ofir and Sadeh, 2019; Rui Chen and Chen, 2020), in the absence of financial institutions in the crypto market, and the immediate effect of moral hazard show the importance of the reduction of uncertainty and risk in leading to the success of ICO campaigns. Boreiko and Vidusso (2019) examine the role and implications of ICO aggregator platforms in campaign success.

Information asymmetry is the fundamental concern of ICOs and other alternative financing structures and was introduced by Akerlof (1970) because it challenges each counterparty's mutual informational trust (Courtney et al., 2017; Rui Chen and Chen, 2020; Zhao et al., 2019). Additionally, adverse selection and moral hazard problems are key challenges associated with asymmetric information for means of financing or investments (Darrough and Stoughton, 1986; Zhao et al., 2019). As a result, asymmetric information is one of the major factors causing investor uncertainty, and could potentially impact on the success of traditional crowdfunding campaigns (Ahlers et al., 2015; Belleflamme et al., 2015; Rui Chen and Chen, 2020) and token sale campaigns while signaling theory can contribute to conceptualizing token sales (Aslan et al., 2021; Ofir and Sadeh, 2019), as the objective of signaling theory is to reduce information asymmetry between counterparties with the use of signals (Connelly et al., 2011; Spence, 1973; Vismara, 2018). Therefore, we use signaling theory as a lens to investigate the determinants of success mentioned above for ICOs and for new alternative token sale models.

METHODOLOGY

Blockchain technology applications can affect a variety of sectors and change fundamental realities of how social constructs work in finance, governance and fundraising by incorporating transparency, democratization and disintermediation. Therefore, we assume that blockchain technology and blockchain crowdfunding models do not have one reality while they are still developing and could be interpreted differently in different contexts, although absolute reality exists on the code that governs the networks. Technical aspects need to be evaluated accurately but they might have direct or indirect social, organizational and financial implications. Since we study an emerging phenomenon that allows for a variety of interpretations we choose a pragmatists philosophy, thus our research approach can be chosen depending on what is appropriate for the specific research (Feilzer, 2010), with the purpose of providing a practical outcome, that is achieved by having a direct application in the real world (Creswell and Clark, 2007).

A multiple case study design fits our aim of updating the literature on the evolution of the token sales market, in consequence of the abandonment of the ICO model, the emergence of centralized and lately new decentralized alternative models and their implications with stakeholders and the ecosystem. We perform a multiple case study of alternative ICO models parallel to a case study of launch platforms. Launch platforms are interconnected to alternative models so their involvement in this study is crucial to be able to effectively evaluate their differences. The review of empirical ICO research and an exploratory study of determinants of success of ICOs led us to recognizing how launchpad characteristics diminish the shortcomings of ICOs and how characteristics and processes of different launchpads influence campaign performance.

According to Hox and Boeije (2005) and Salkind (2010) primary data sources refer to an original data source in which the author collects the data first-hand, for a specific study or project objective, whereas secondary data is characterized as the opposite of primary data, referring to material that has previously been obtained for other purposes. Our study collects publicly available data from Cryptorank.io (CryptoRank.io,2021) ICO listing website, but supplements and cross-checks them with a variety of other listing websites and web sources such as dedicated campaign web pages, exchange and launch platform information manually, using the aforementioned definition our data can be considered primary data.

Sampling

Time horizon for our research is considered to be cross sectional as the study takes place in a specific point in time [Nov. – Dec. 2021] creating a snapshot of a particular market in time, prompting for further research. We choose to examine only successful (reached soft cap) public sales of ICOs, IEOs and IDOs as categorized by Cryptorank.io and supported by the developed framework.

The initial dataset and tables were constructed in Excel [Microsoft Office 365], by publicly available data collected from the webpage Cryptorank.io and the dataset was supplemented and cross checked manually with data from other ICO tracking websites such as ICObench.com, Coincodex.com, ICODrops.com, ICOholder.com, Coinmarketcap.com and dedicated websites, then merged and cleansed to construct the final dataset which includes the outcomes of Public Sales for 467 ICOs ranging from 2017 to end of 2021 (103 campaigns 2019-2021), 357 IEOs and 1245 IDOs ranging from 2019 to the end of 2021, where some projects conducted both types of sales. Comparative analysis is performed for entries in the period 2019 to 2021, despite that ICO returns for the period of 2017-2018 are extensively covered by published empirical research, we use ICO data from that period to provide a visual representation of the evolution of the market.

Our sample is used to examine the amounts of capital raised for funding campaigns of all types (ICO, IEO, IDO) and the capital raised by individual launch platforms for IEOs and IDOs. Following the construction of final datasets, we calculated the Mean, Median, Standard Deviation (σ) values and Range (min, max). Utilizing "R" programming environment [version R-4.1.3] we examined normality of distribution in dataset and subsets and proceeded with inferential statistics. (Saunders et al., 2019), The findings are then presented and interpreted eventually linking quantitative and qualitative findings in the conclusions section.

FINDINGS AND DATA ANALYSIS

Performance of Models

Figure 1 reveals the decrease of ICO campaigns and the emergence of IEOs in 2019 with an explosive increase of IDO campaigns, due to their ease of deployment, reporting a 41.47% increase in the total number of campaigns in Q4 of 2021. Table 2 presents the findings for the capital raised by each model in the period 2017 to 2021 for ICOs and for the period 2019-2021 for IEOs and IDOs. Data were checked for normality using the Shapiro-Wilk Test which none of the data had (even when log-transformed; confirmed by the Shapiro-Wilk test.)

- Our findings confirm the correlation of number of campaigns to market sentiment since campaigns are increasing in correlation to crypto market capitalization (Table 2; Figure 1). IEOs were prevalent in 2019 with 109 campaigns raising approximately 275 million USD, although only 12 ICOs managed to amass more than 250 million USD.
- Standard deviation indicates significant differences in performance between different ICO campaigns due to differences in marketing and communication effort, different utility, native blockchain and team reputation.

- Advancements in DeFi in 2020 shifted interest again on decentralized financing campaigns and the number of IDO campaigns skyrocketed in 2021 (1278 campaigns). Although some projects simultaneously conducted campaigns on multiple launchpads, increasing the total number of campaigns.
- In a period where all types of campaigns were available for issuers and investors (2019-2021) IDOs continuously increased their market share, while capital raised amounts to approximately 1.1 billion USD with the majority of capital raised and campaigns conducted in 2021.
- ICO proceeds in the same period have raised approximately \$834 million USD which represent 36% of capital raised (7% of total campaigns), while IEOs 17% (20% of total campaigns), and IDOs 47% of the total capital (73% of total campaigns),
- ICOs accumulate highest amounts of capital in average but issuers resorted to IDOs due to ease of deployment, lower costs, reduced risk and guaranteed listing. With IDOs a wider spectrum of projects is receiving funding indicating a more accessible, sustainable and healthier market
- Proceeds of IDO are not entirely conclusive to their overall performance, as the majority of campaigns were conducted on a period of positive sentiment in the market and the examined timeframe is limited compared to ICOs and IEOs.

Return on investment can be examined as a means of estimating investor returns and follow up capital for issuers that reserve part of token supply for future financing needs. Campaigns where tokens haven't traded positively, can be considered as failed projects due to poor communication with investors, lack of visibility and new developments leading to decreased demand, indicating potential abandonment.

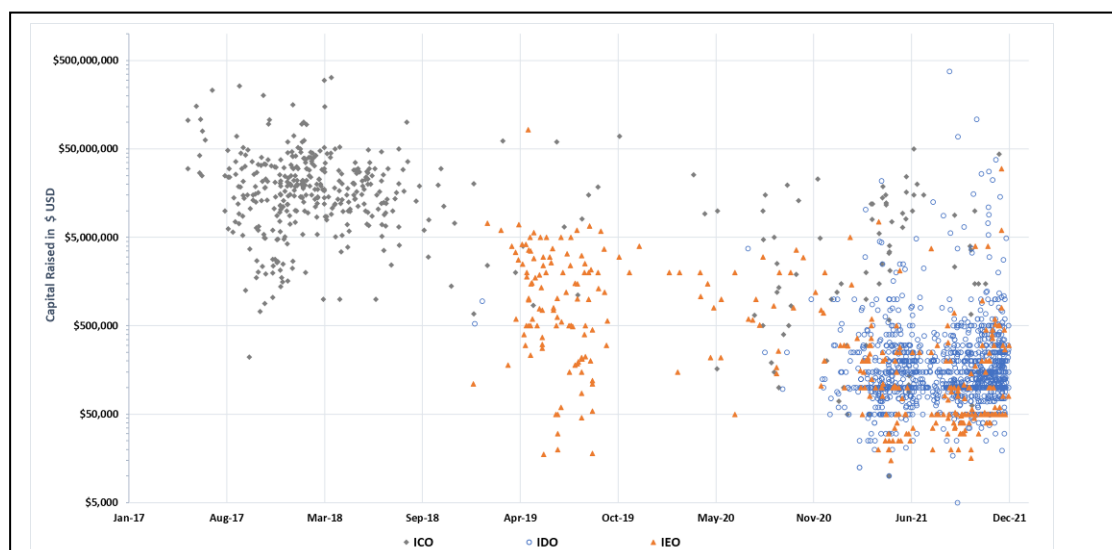


Figure 1: Capital raised in \$ USD by each type of campaign, excluding EOS (4.2 billion \$USD) and Telegram (1.7 billion \$USD) ICOs, ranging from the Jan-2017 to the Dec-2021.

ICO

Year	Campaigns	Sum	Mean	Median	Min	Max	σ
2017	161	\$4,279,963,970	\$26,583,627	\$15,960,000	\$220,800	\$257,000,000	\$37,932,706
2018	203	\$11,075,389,450	\$54,558,569	\$19,220,000	\$679,450	\$4,200,000,000	\$316,968,594
2019	12	\$250,560,000	\$20,880,000	\$7,345,000	\$850,000	\$69,490,000	\$26,623,777
2020	31	\$168,909,730	\$5,448,701	\$1,350,000	\$100,000	\$25,660,000	\$7,274,313
2021	60	\$414,903,300	\$6,915,055	\$3,370,000	\$10,000	\$50,000,000	\$9,651,948
Total	467	\$16,189,726,450	\$34,667,508	\$14,870,000	\$10,000	\$4,200,000,000	\$210,783,639

IEO

Year	Campaigns	Sum	Mean	Median	Min	Max	σ
2019	109	\$275,561,410	\$2,528,086	\$1,020,000	\$17,500	\$83,000,000	\$7,992,815
2020	36	\$37,312,230	\$1,036,451	\$774,960	\$50,000	\$3,600,000	\$949,686
2021	211	\$97,777,970	\$463,403	\$75,000	\$15,000	\$30,070,000	\$2,256,370
Total	356	\$410,651,610	\$1,153,516	\$200,000	\$15,000	\$83,000,000	\$4,837,425

IDO

Year	Campaigns	Sum	Mean	Median	Min	Max	σ
2019	1	\$950,000	\$950,000	-	\$950,000	\$950,000	-
2020	10	\$5,821,000	\$582,100	\$125,000	\$50,000	\$3,750,000	\$1,147,833
2021	1278	\$1,097,077,460	\$858,433	\$105,000	\$3,000	\$379,260,000	\$11,361,978
Total	1289	\$1,103,848,460	\$856,360	\$125,000	\$3,000	\$379,260,000	\$11,313,790

Table 2: Descriptive statistics for the capital raised by ICOs, IEOs and IDOs campaigns in the period 2017-2021.

Performance of Launchpads

The success of a blockchain funding campaign, amount of capital raised and token performance after public sale concludes, is highly correlated to the selection of launch platform for IDO and IEO campaigns and we deduced this additional conclusion by analyzing the performance for campaigns in individual launchpads.

IEO Launchpads

Gate.io launchpad is leading in terms of total capital raised, amounting to approximately \$141 million USD, although it has launched proportionally more campaigns compared to other launchpads (Table 3; Figure 2). Average capital raised for Gate.io IEOs amounts to approximately \$980 thousand USD, while the median is merely \$50 thousand USD. Gate.io is the predominant launchpad used by projects up to date, that want to launch an IEO campaign parallel to their IDO to increase their reach. Exchanges that have the majority of users and trading volume like Binance, FTX, Kucoin, OKEx and Huobi and others, are leveraging their popularity and marketing channels, but are conducting far less IEOs with proceeds that are significantly higher for issuers, investors and the launchpad.

IEO

Platform	Campaigns	Sum	Mean	Median	Min	Max	σ
Gate.io	143	\$141,059,880	\$986,433	\$50,000	\$15,000	\$83,000,000	\$7,361,025
Binance	26	\$104,320,000	\$4,405,217	\$4,000,000	\$1,500,000	\$7,500,000	\$1,685,793
OKEx	13	\$30,400,000	\$2,338,462	\$2,000,000	\$1,000,000	\$5,040,000	\$1,089,915
Huobi Global	19	\$24,183,500	\$1,272,816	\$600,000	\$45,000	\$4,200,000	\$1,263,130
Kucoin	20	\$21,860,000	\$1,150,526	\$300,000	\$40,000	\$5,600,000	\$1,562,219
Bittrex	4	\$15,790,000	\$3,947,500	\$4,020,000	\$750,000	\$7,000,000	\$2,875,243
AscendEX	17	\$7,747,310	\$455,724	\$200,000	\$16,000	\$2,000,000	\$534,637
Bitfinex	3	\$7,050,000	\$1,025,000	\$470,000	\$50,000	\$2,000,000	\$1,378,858
Bitforex	10	\$6,381,500	\$638,150	\$612,000	\$17,500	\$1,510,000	\$385,620
Probit	15	\$5,732,980	\$409,499	\$297,980	\$50,000	\$1,200,000	\$314,443

Table 3: Descriptive statistics for the capital raised by Top 10 IEO Launchpads, ranked by Sum of capital raised 2019-2021

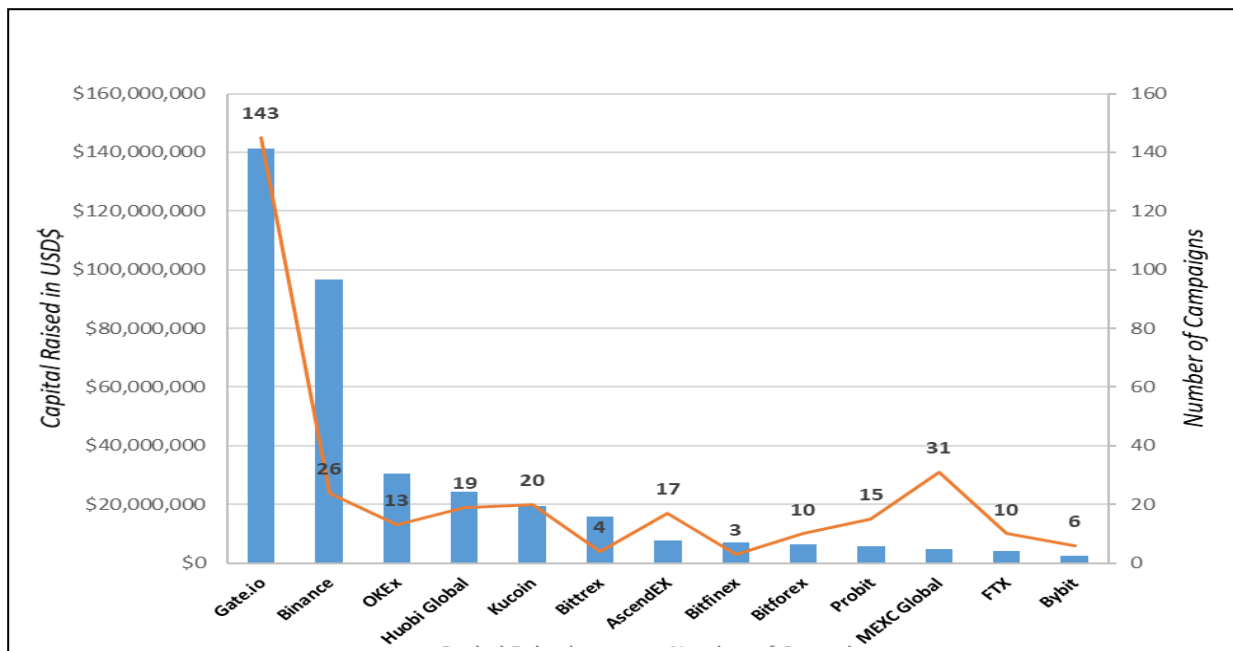


Figure 2: Graphical representation of the Top IEO launchpads, ranked by sum of capital raised 2019-2021.

Binance launchpad which pioneered in the adoption of IEOs has raised more than \$104 million USD with only 26 campaigns launched (Figure 4). These findings indicate that projects scrutinized and supported by Binance are set for a successful fundraising campaign. This also applies to other major exchanges, such as FTX, Kucoin, Huobi and OKEx although the procedures followed by each exchange to evaluate, supervise and support projects are not specifically determined. IEO campaign success is influenced by the individual launchpad if its procedures of scrutinizing and supporting the project, while the joint marketing initiatives are reducing information asymmetries between entrepreneurs and investors. Exchange user base, region and reach are also potential factors influencing the performance

of campaigns, as retail investor capital is limited, and they have to decide which exchange token will hold to gain eligibility for IEOs.

- Launchpads that effectively signal the quality and technical capabilities of an upcoming project, while inducing trust between counterparties through their reputation and scrutinization processes, are reducing information asymmetries and potential risk, leading to attracting more investors and higher amounts of funding.
- Although on IEOs top tier exchanges accumulate control of financing and capital
- Differences in performance of campaigns are attributed to the disparity between the processes, userbase and volume of individual exchanges

IDO Launchpads

Performance of decentralized launchpad varies as each launchpad is facilitated to address the need of different niches or applications. Simultaneously launching is required for targeting a wider and more diverse pool of investors, but the performance of each campaign is also correlated to the choice of launch platform. Campaigns conducted on launchpads with previous successful campaigns tend to raise significantly more capital. In Table 4 Dedicated DEXs refers to campaigns, for new DEXs or launchpads, which structured and facilitated the funding campaigns on their dedicated platforms. MISO (instantmiso.com) is the launch platform developed by Sushiswap DEX on Ethereum and is leading in terms of capital raised due to the launch of BitDAO (bitdao.io), a DAO that functions as an investing fund, through individual contributions and decentralized governance.

- As Ethereum is the leading blockchain in terms of protocol TVL (Total Value Locked), IDOs and launchpads launching on Ethereum tend to accumulate the highest amount of capital. Although we observe an increase in launchpads dedicated to specific blockchains or development of blockchain agnostic launchpads like Polkastarter (Polkastarter.com).
- If the services, DeFi and POS chain mechanics, research platforms, marketing and potentially governance structures of a launchpad benefit participants they attract investors to hold the launchpad token to receive eligibility for hosted IDOs. The economic synergies, community building, and research portals align counterparties' motives, inducing trust between parties, reduce information asymmetries and lead to launch of successful projects.
- Campaign success is additionally affected by the individual blockchain the launchpad is built upon, previous successful campaigns and the niche that the launchpad specializes. Thus, IDO campaigns conducted on launchpads facilitated by established DEXs, will leverage the popularity and volume of DEXs resulting in potentially higher accumulation of capital than individual launchpads.

Polkastarter is the leading decentralized launchpad in terms of capital raised and conducted IDO campaigns as depicted in Figure 3, Descriptive statistics in Table 3, show that the capital raised by individual launchpads is somewhat analogous to the number of campaigns conducted and the median values indicate an even distribution of capital between new projects, with some extreme exceptions of projects that require significant operational capital like investing DAOs.

IDO

Platform	Campaigns	Sum	Mean	Median	Min	Max	σ
MISO	11	\$461,911,170	\$41,991,925	\$7,230,000	\$130,650	\$379,260,000	\$112,386,674
Dedicated DEX	142	\$359,571,320	\$2,532,192	\$150,000	\$5,000	\$108,850,000	\$11,452,047
Polkastarter	93	\$24,706,330	\$265,659	\$216,000	\$25,000	\$1,170,000	\$179,259
DAO Maker	81	\$23,732,850	\$292,998	\$152,000	\$60,000	\$3,750,000	\$464,130
PancakeSwap	15	\$19,762,500	\$1,317,500	\$1,000,000	\$437,500	\$3,000,000	\$844,729
PAID Network	67	\$16,339,050	\$243,866	\$200,000	\$75,000	\$2,000,000	\$263,003
BSCPad	59	\$11,657,180	\$197,579	\$125,000	\$50,000	\$1,000,000	\$198,844
Poolz	66	\$8,265,060	\$125,228	\$100,000	\$50,000	\$300,000	\$61,046
Seedify	33	\$8,090,000	\$245,152	\$250,000	\$100,000	\$600,000	\$88,496
Avalaunch	10	\$7,621,140	\$762,114	\$570,910	\$250,000	\$2,000,000	\$513,623

Table 4: Descriptive statistics for the capital raised by IDO Launchpads, ranked by Sum of capital raised 2019-2021

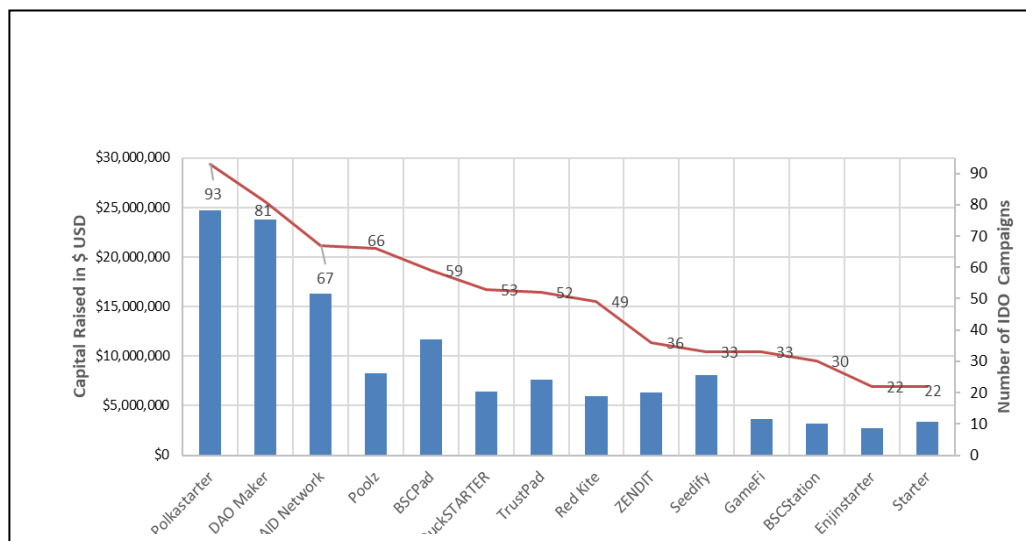


Figure 3.

Graphical representation of the Top IDO launchpads, ranked by number of conducted campaigns 2019-2021

CONCLUSIONS

In 2019 and 2020, Initial Exchange offerings regained trust of investors for public token sales by reducing information asymmetry and moral hazard for issuers by allowing them to launch campaigns through their regulated but centralized platforms. Exchanges acted as intermediaries between investors and issuers, scrutinizing projects and offering their tokens on their off-chain platform and user base.

The cases of frauds were significantly reduced but IEOs are critiqued for going against the decentralization ethos of blockchain technologies. IEOs may have laid the foundation for token sales to regain investors' trust, but the lack of a shared framework for hosting IEOs in different launchpads, led to concentration of capital and control in top tier exchanges and a shift of interest from IEOs to IDOs. The rise of DeFi in 2020 enabled decentralized protocols like DEXs and launchpads to provide platforms for conducting token sales, without users offering the custody of their funds while the ease and low cost of deployment, and increased funding needs for new decentralized applications led to an explosive increase in IDO campaigns in 2021. The IDO model encourages innovation, as frauds and pump and dump schemes seem to have decreased while the number of distinct projects that received funding has exponentially increased.

IDOs have claimed the biggest share of the financing market in terms of campaigns conducted and total capital in 2021, although ICOs provide the highest average in terms of capital raised due to their highly speculative nature and complete lack of intermediaries, but the risk and effort are considerably higher for both parties.

In an ecosystem tormented by regulatory uncertainty and arbitrage, the development of launchpads confirms the need for trusted entities, to facilitate the platforms for financing and development of innovation. The introduction of launchpads as an intermediary seems to have reduced cases of frauds by vetting projects, guarantying listing, standardizing individual participation limits, whitelisting, vesting schemes and KYC procedures. Launchpads performing due diligence and vetting for projects as well as providing research portals and shared marketing efforts, can eventually lead to decreasing information asymmetries, moral hazard and counter party risk, leading to launching successful projects. Thus, the choice of launchpad additionally influences the success of a campaign as performance is correlated to the reputation, previous successful campaigns, community, native blockchain and procedures followed by each launchpad, which are not subjected to a regulatory or industry standard.

With the exception of STOs, token sales are for the most part unregulated and the involvement of centralized or decentralized intermediaries has proven to positively impact the token sales market meaning that regulation and supervision, that doesn't hinder the progress and development of cryptocurrencies will greatly benefit investors and adoption of blockchain technology (Sousa *et al.*, 2022).

Future research can tackle non-blockchain companies using and integrating tokens to finance their new ventures, as well as the societal impact, potential scaling and optimal structure for these campaigns.

upon more available data. Further research is required on the implications of IDO mechanics and the long-term performance of alternative campaigns, as well as on the effects of impeding DeFi regulation and involvement of token intermediaries, needed for real world asset tokenization.

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WASTE MANAGEMENT OF GOAT FARMS AS A FINANCIAL DRIVER OF ENVIRONMENTAL SUSTAINABILITY IN GREECE.

Tsiouni, M.¹; Gourdouvelis, D.²; Petkou, D.³; Aggelopoulos, S.¹; Mitsopoulos, I.¹

¹School of Agriculture, International Hellenic University, Thessaloniki, Greece

²School of Agriculture, Aristotle University of Thessaloniki, Greece

³Dep. of Early Childhood Care and Education, International Hellenic University, Thessaloniki, Greece

ABSTRACT

Goat farming plays an important role in terms of economic, social, and environmental cohesion. Breeding and agricultural activities, especially livestock production on an industrial scale, are considered the main sources of pollution in the natural environment. This study investigates the characteristics of goat farms in the Prefecture of Thessaloniki and Larissa, Greece, according to their waste management practices, and the development of a typology based on these characteristics. The environmental profile of each type of goat farm is evaluated in conjunction with their economic performance and the characteristics of the farmer. A hierarchical cluster analysis (HCA) is carried out as part of the empirical analysis. The sampled farms were clustered into two types, these with environmental performance and no environmental performance. The results showed that the farms with environmental performance were business farms, with a large number of animals.

Keywords: waste management, goat farms, financial driver

INTRODUCTION

Goat farming in Europe plays an important role in terms of economic, social, and environmental cohesion. The Greek goat sector is first in meat and second in milk production among the EU countries (FAOSTAT, 2021). Over the last few decades, market forces have driven livestock production to become more efficient and reduce seasonality. As a result, dairy goat farms have evolved from traditional low-producing grazing practices to more intensive production methods requiring a high dependency on external feed, as well as implementing various innovations in order to achieve higher production (Castel et al., 2011). In the last decade, there was a decrease in goat farms in Greece but milk production remained stable during this decade (EUROSTAT, 2021). Changes in the structure of the sector as well as investments by farmers who chose to move from small-scale family farming to entrepreneurship enabled dairy farms to operate in a better environment. Through the changes in the structure, animal welfare, hygiene, and milk and meat yields have improved. As a result of the structural changes in the sector, a greater number of animals were confined to a relatively

small area, which increased waste production. On the other hand, the existing infrastructure in most farms was unable to cope with the additional waste production (Abas et al., 2013). Breeding and agricultural activities, especially livestock production on an industrial scale, are considered the main sources of pollution in the natural environment (Malomo et al., 2018; Delgad et al., 2013). Due to the rapid growth in populations along with industrialization and urbanization and their detrimental effect on the environment and public health, agriculture and livestock waste are an alarming problem worldwide (Ahluwalia, 2016; Bhat et al., 2017). The management of these wastes is also a global problem due to the complexity of waste segregation, collection, transportation, treatment, and disposal, all of which affect the environment (Mozhiarasi and Natarajan, 2022). The environmental impact of small ruminants refers to gas emissions (McClelland et al., 2018). The ruminant agriculture sector produces more emissions than other types of agriculture (Ryan et al. 2015). Moreover, the majority of the farmers do not practice proper manure management, resulting in major environmental problems (Ndambi et al., 2019). Among the most important environmental concerns in goat operations are greenhouse gas emissions and dairy waste disposal (Miller and Lu, 2019). The restructuring of the industry resulted in increased waste production, while the infrastructure on most farms was not adequate to deal with the increased waste output. As a result of excessive waste, surface and underground water reserves degraded in quality, and groundwater reserves were sometimes polluted. As well, odors from gas emissions are also a serious environmental issue (Abas et al., 2013). As a fertilizer, manure contains nitrogen, other inorganic elements, and water, so it is, directly and indirectly, a source of gas emissions.

The appropriate handling of these wastes can have a significant economic impact. Manure can be used as soil amendments. Using manure as fertilizer could potentially decrease the cost of crop production from an economic standpoint (Araji et al., 2001) and decrease dependency on chemical fertilizers. Aside from addressing the environmental hazards associated with other waste treatment techniques, such as incineration and sanitary landfills, the production of bioenergy from varied wastes would also reduce greenhouse gas emissions and replace fossil fuel consumption (Tsai and Lin, 2021). Biofuels provide an alternative to commonly used fossil fuels. The use of waste energy sources protects the environment in an appropriate manner and creates new jobs.

This study investigates the characteristics of goat farms in the Prefecture of Thessaloniki and Larissa, Greece, according to their waste management practices, and the development of a typology based on these characteristics. The environmental profile of each type of goat farm is evaluated in conjunction with their economic performance and the characteristics of the farmer. A hierarchical cluster analysis (HCA) is carried out as part of the empirical analysis. Analysis results can be connected to farm

performance since farms need to meet minimum environmental standards in order to operate effectively.

In more detail, through the use of farm-level information based on socio-demographic characteristics, the size of farm, the economic performance and, environmental issues, this study will profile and categorize goat farms based on their behavior. A key objective is to identify the economic, social, and environmental strategies that contribute to goat farm sustainability.

LITERATURE REVIEW

In the current literature, there is a lack of studies regarding how farmers deal with waste under microscopic conditions. Waste management disposal is a topic that many researchers have focused on it, but the majority handled with themes such as treatment methods of waste disposal (Reza and Chen, 2022; López-Sánchez et al., 2022; Thao et al., 2022), technologies (Yuan et al., 2018), or policies related to waste management (Zheng et al., 2014). Many researchers have focused on the willingness of farmers to pay for their disposal. In a systematic study of farmers' willingness to pay for environmental benefits, a number of family and personal characteristics were found to influence their decision (Poudel and Johnsen, 2009), such as insurance involvement or subsidies (Tsiouni et al., 2021). Other researchers studied the socio-demographic characteristic of farmers and their contribution to environmental measures. When farmers have a better understanding of agriculture waste and a higher education level, they should be more likely to have a positive attitude and perception toward improving environmental management, as well as cleaner production (Atinkut et al., 2020). Farmer's knowledge of waste management is strongly influenced by their level of education and the number of animals they have (Tsiouni et al., 2021b). Moreover, the number of family members that occupied the farm has a positive correlation with the time they spend on environmental quality improvement services (Atinkut et al., 2020). The adoption of agricultural waste disposal technologies was influenced by perceived economies, usefulness, and ease of use for farmers (Bin et al., 2017). The expected economic benefits also play a role in the choice of livestock waste management (Catelo et al., 2001). Farmers' waste management behaviors are also significantly affected by concurrent business and income (Stern, 2010). In terms of environmental awareness, the gender of farmers had a different impact, with male household heads more likely to treat waste on their own accord (Xing et al., 2009). The age of farmers also play role in waste management, as younger people are more environmentally intensive (Pan and Kong, 2015). The size of farms contributes to the waste treatment. Especially, large-scale farming enterprises treat livestock and poultry waste by using biogas, while small-scale farmers prefer to sell their waste (Feng et al., 2013). Business ranking farms with surplus staff and high education level of farmers can be characterized as environmental performance (Tsiouni et al., 2021b).

Olusoji and Olaogun (2016), mentioned that the majority of farms have inadequate animal waste management systems, resulting the manure in widespread air, water, and land pollution. Older farmers have impaired cognition and comprehension abilities, along with a lower willingness to learn new technologies, making biogas fermentation to treat waste extremely difficult (Wang and Tao, 2020). Research on the use of manure and the prevention and control of pollution in animal farming focuses mostly on pigs, laying hens, and dairy and suckler cows (Tancuk et al., 2019; Pan, 2016).

According to the literature review, we conclude that the majority of the research that deals with waste management issues, don't take into consideration the socio-demographic characteristics, economic performance and the farm size in correlation with the willingness to pay or to be subsidized in order to process their wastes. Moreover, there is no research that referred to the goat farmers' profile according to their waste management. It is crucial to understand how these factors affect decision-making when designing and targeting environmental and resource management programs.

METHODOLOGICAL FRAMEWORK

A sample of 272 dairy farms in the Regional Unit of Thessaloniki and Larissa, Greece, provided data for the empirical analysis. These study areas were chosen because in the specific areas' goat farming is of great economic importance. Simple random sampling was employed as a sampling method. Researchers collected data from the farm heads using questionnaires and individual interviews from 2020-to 2021. The sampled farms included a range of types of farms typical of the region, from small family farms to larger modern farms. Each goat farm was estimated to need 15 minutes to complete the questionnaire. As a first step, the data was entered in Microsoft Office 2010 and specifically in Excel, and then analyzed using the SPSS24 program. Ward's criterion was used to form clusters of farms, and the squared Euclidean distance was used to measure their similarity. In this analysis, variables were transformed into Z-scores before entering. Hierarchical cluster analysis is a technique for identifying objects that are similar, where items in a cluster are more alike than those in other clusters. It is useful for discovering patterns in data that were previously undetected (Oršolić et al., 2021; Halkidi et al., 2001). Tukey and Games-Howell's tests were used to make statistical comparisons.

RESULTS

Four clusters were formed. Frequencies and percentages of goat farms per cluster are presented in Table 1. According to Table 1, in the first cluster (C1) 90 goat farms (33.1%) are presented, in the second cluster (C2) 146 goat farms (53.7%) are presented, and in the third cluster (C3) 12 goat farms (4.4%) are presented, and in the fourth cluster (C4) 24 goat farms (8.8%) are presented.

Table 1: Frequencies and percentages of goat farms per cluster.

Cluster	Frequency	Percent
C1	90	33.10
C2	146	53.70
C3	12	4.40
C4	24	8.80
Total	272	100

Table 2: Descriptive statistics of the farmer's age for each cluster.

Cluster	Minimum	Maximum	Mean	Std. Deviation
C1	18	81	44.12a	15.06
C2	18	82	47.08a, b	18.72
C3	37	78	56.75b	13.62
C4	24	82	45.83a, b	15.52
η^2			0.02	
p-value			0.10	

Mean values of age followed by different exponential letters indicate statistically significant differences between the clusters according to Tukey's test (for equal variances) and Games-Howell's test (for not equal variances). In this case, the Games-Howell's test was applied.

In Table 3, mean values, standard deviations, and minimum and maximum values of the farmer's education level (in years) are presented for each cluster. In the first cluster, the mean value of farmers' education level is 10.72 years. In the second cluster, the mean value of farmers' education level is 9.90 years. In the third cluster, the mean value of farmers' education level is 8.00 years. In the fourth cluster, the mean value of farmers' education level is 10.75 years.

Table 3: Descriptive statistics of farmer's educational level in years for each cluster.

Cluster	Minimum	Maximum	Mean	Std. Deviation
C1	2	18	10.72a	3.75
C2	1	18	9.90a	3.79
C3	2	12	8.00a	3.93
C4	4	18	10.75a	3.27
η^2			0.03	
p-value			0.07	

Mean values of educational level in years followed by different exponential letters indicate statistically significant differences between the clusters according to Tukey's test (for equal variances) and Games-Howell's test (for not equal variances). In this case, the Tukey's test was applied.

In Table 4, mean values, standard deviations, minimum and maximum values of animals' numbers are presented for each cluster. In the first cluster, the mean number of animals is approximately 161. In the second cluster, the number of animals is approximately 74. In the third and in the fourth cluster the number of animals is 863 and 71 respectively.

Table 4: Descriptive statistics of animals' number for each cluster.

Cluster	Minimum	Maximum	Mean	Std. Deviation
C1	10	800	161.79a	160.52
C2	10	540	74.73b	82.94
C3	530	1195	863.17c	212.82
C4	28	100	71.33b	19.46
η^2			0.65	
p-value			0.001	

Mean values of animals' number followed by different exponential letters indicate statistically significant difference between the clusters according to Tukey's test (for equal variances) and Games-Howell's test (for not equal variances). In this case, the Games-Howell's test was applied.

A chi-square (X^2) test of independence was performed to examine the relationship between the clusters and the three environmental variables.

Table 5: Crosstabulation of the percentages (%) of the frequency of waste disposal for each cluster.

Statment	C1	C2	C3	C4	Total
Every week	25.6a	17.1a	91.7b	12.5a	22.8
Every month	51.1a	53.4a	8.3b	83.3c	53.3
Whenever there is a need	23.3a,b	29.5b	0.0a,c	4.2c	23.9
Total	100	100	100	100	100

$X^2=45.817$, degrees of freedom=6, p-value<0.001,

For each statement, in each row, percentages followed by different exponential letters indicate statistically significant difference between the clusters based on several Z-score tests.

According to Table 5, there was a significant association between the frequency of waste disposal and the clusters ($X^2=45.817$, degrees of freedom=6, p-value<0.001). More specifically, most of the farmers (91.7%) from cluster three (C3) dispose their waste every week. Also, the majority of the farmers (83.3%) from cluster four (C4) dispose their waste every month. Finally, a great part of the farmers (23.3% and 29.5%) from clusters one (C1) and two (C2) dispose their waste whenever there is a need.

Table 6: Crosstabulation of the percentages (%) of waste disposal places for each cluster.

Statement	C1	C2	C3	C4	Total
Nowhere	10.0a	13.0a	0.0a	4.2a	10.7
Farm	90.0a	87.0a	75.0a	95.8a	88.2
Biogas unit	0.0a	0.0a	25.0b	0.0a	1.1
Total	100	100	100	100	100

$X^2=68.476$, degrees of freedom=6, p-value<0.001

For each statement, in each row, percentages followed by different exponential letters indicate statistically significant difference between the clusters based on several Z-score tests.

According to Table 6, there was a significant association between the place of waste disposal and the clusters ($X^2=68.476$, degrees of freedom=6, p-value<0.001). More specifically, only the farmers from cluster 3 (C3) dispose their waste at a biogas unit. Moreover, the majority of the farms in all clusters dispose their wastes in the farm.

Table 7: Crosstabulation of the percentages (%) of farmers disposed to pay for their waste disposal for each cluster.

	C1	C2	C3	C4	Total
No	27.8a	47.3b	0.0c	29.2a, b	37.1
Yes	27.8a	16.4b	100c	16.7a, b	23.9
It depends	44.4a	36.3a	0.0b	54.2a	39.0
Total	100	100	100	100	100

$\chi^2=51.652$, degrees of freedom=6, p-value<0.001

For each statement, in each row, percentages followed by different exponential letters indicate statistically significant difference between the clusters based on several Z-score tests.

The farms in cluster C3 will pay for the disposal of their waste (100%). The farms in cluster C2 don't want to pay for the disposal of their waste (47.3%). The farms that belong to C1 and C4 clusters will pay for the waste disposal under specific conditions (44.4 and 54.2% respectively).

DISCUSSION

Goat farming is a very special activity in Greece, since it adapts well to nature, provides high-quality products, and significantly contributes to the country's gross agricultural production value. Based on environmental data from farm-level sources, this study profiles and categorizes goat farms according to their performance. Assessments of environmental development can be useful in formulating a strategy to support an improvement. The classification of the farms showed the existence of the differentiation between the analyzed farms.

According to the results, four clusters were obtained. The first cluster (C1) can be characterized as medium-size farms (161.79 animals/ farm) with no environmental performance. The waste disposal is every month and the waste disposal place is in the farm. If the farmers in C1 cluster had a motivation they would pay for the disposal of their waste. The education level of the farmers is 10.72 years and the mean age is 44 years old. The second cluster (C2) can be characterized as small size farms (74.73 animals/ farm) with no environmental performance. The waste disposal is every month and the waste disposal place is in the farm. The farmers in this cluster would not pay for the disposal of their waste. The education level of the farmers is 9.9 years and the mean age is 47.08 years old. The third cluster (C3) can be characterized as business farms (863.17 animals/ farm) with environmental performance. The waste disposal is every week and the waste disposal place is on the farm, but 25% of the farms that belong to this cluster give their waists in biogas units. The farmers have the willingness to pay for waste disposal. The education level of the farmers is 8 years and the mean age is 56.75 years old. The fourth cluster (C4) can be characterized as small size farms (71.33 animals/ farm) with no environmental performance. The waste disposal is done every month and the waste disposal place is in the farm. If the farmers in C4 cluster had a motivation they would pay for the disposal of their waste. The education level of the farmers is 10.75 years and the mean age is 45.83 years old.

As EU legislation becomes more demanding with regard to obtaining licenses, waste management in Greek goat farms poses one of the top concerns. Consequently, farmers are required to comply with new environmental standards by adopting techniques for managing waste as well as producing organic fertilizers and biogas. The sampled farms were clustered into two types, these with environmental performance and no environmental performance. The farms with environmental performance are business farms. The age of the farmers and the education level have no effect on the environmental performance.

The farms with no environmental performance in relation to waste management, although they are extensive and rear a small number of animals, it is vital for their continued operation to introduce waste management requirements. Despite their environmental shortcomings, even the small farms offered an alternative identity to goat farming in the studied area.

Using animal waste for energy production could be beneficial for both economic and environmental reasons (Skoulou and Zabaniotou, 2007). Sustainable practices and principles must be adopted by the small ruminant sector to become more competitive and resilient (Paraskevopoulou et al., 2020).

Farmers should adopt several environmentally friendly livestock waste management models as prototypes for addressing livestock waste management issues. However, the popularity of any technology will depend on its cost, availability of subsidies, and revenue potential.

For the improvement of the environmental performance, a crucial factor is the training of the farmers. Educational activities should emphasize the relationship between dairy farming and the environment and modern technologies for environmental management (Abas et al., 2013). Environmental innovations may decrease the production costs of farms (Shrivastava, 1995; Palmer and Truong, 2017).

CONCLUSIONS

Goat farms are businesses, which need profit continuity in order to survive and remain on the market, and keep delivering public goods and ecosystem services. The design of alternative, sustainable agricultural systems and technologies are rapidly evolving. Sustainable livestock farming implies the necessity for farmers to remain competitive. Therefore, farmers need to innovate continuously in order to adapt to market development and changes in resource quality and availability. This research has several limitations that suggest directions for future investigations. First, all data were collected from two regions in Greece, so we can't extend the results. Moreover, despite the increasing research in the area of environmental management, much latitude exists for collecting more empirical evidence to support the green and competitive notion for farms.

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ORGANIZING KNOWLEDGE VISUALISATION IN EMERGENCY: A COMPARATIVE ANALYSIS OF EUROPEAN UNIVERSITIES

Ventura, Marzia¹; Vesperi, Walter¹; Cristofaro, Concetta Lucia²; Reina, Rocco¹; Melina,

Anna Maria³

¹"Magna- Græcia" University Of Catanzaro, Department Of Law, Economics And Sociology - Italy

²E-Campus University

³University Of Catanzaro

ABSTRACT

This study aims to analyse and understand the use of Knowledge Visualisation (KV) in universities. Specifically, we want to understand how KV can support decision-making in universities and which KV formats are used in emergency management. This study uses a dual methodological approach: qualitative and exploratory. The collection of data and information is based on the analysis of two case studies, semi-structured interviews and observed participation. To understand the role of KV during the emergency, the two European countries most affected by the COVID-19 pandemic crisis (Italy and Spain) have been identified. Two teams of researchers (one Italian and one Spanish) carried out interviews with the universities' communication managers. The results of this research offer food for thought for the academic debate on knowledge management in universities through a comparative analysis between two countries—Italy and Spain.

The results highlight the flexibility of Knowledge Visualization formats and their ability to support decision-making in the emergency phase.

This study is not without limitations. The results focus only on the role of Knowledge Visualization in the decision-making process during an emergency phase. Further insights are needed to understand the impact of KV in no-emergency phase. In addition, to understand its real impacts, it is necessary to explore how people in organisations act regarding KV by building sufficient awareness and also acquiring more knowledge, which we hope can be the next step of the investigation.

Keywords: Knowledge Visualisation, Emergency, University, Decision-making; Comparative Case studies, Knowledge Management.

1. INTRODUCTION

Knowledge Visualisation (KV) is a research area that is increasingly gaining attention because it examines the use of visual representations to improve knowledge management at all levels; including

personal, inter-personal, team, organisational, inter-organisational and social levels. Many scholars have highlighted the importance of using diagrams, graphs, schemes, mind maps and social graphs captured in real-time (Berinato, 2016; Miah et al., 2017). Visual representations of information and knowledge have been indicated as a dimension of modern knowledge management to support decision-making process (Miah et al., 2017). Organisations worldwide have had to face the pandemic, but KV could be a format that supports the decision-maker in emergency management. In this context, the decision-maker can use KV formats (images, maps, etc.) to transform data and information into accessible forms of representations to extract new knowledge and information. This study fills this gap in the literature by offering an overview on the use of KV in universities during an COVID-19 emergency. Based on these premises, this research starts with an analysis of the literature on the subject of KV and its formats. It then focuses on the empirical analysis of a case study on the University of Jaén (Spain) and the "Magna-Græcia" University of Catanzaro (Italy) as organisations that have been deeply impacted by the coronavirus.

This study investigates KV—through a qualitative and exploratory approach—with the help of two research questions.

RQ1: How does KV support emergency management in universities?

RQ2: What KV formats are used to support decision-making and knowledge management?

The remainder of this paper is structured as follows. Section 2 provides a theoretical framework on KV and issues in the decision-making process during an emergency. Section 3 proposes a detailed description of the methodology. Section 4 presents the findings and conclusions that are then discussed in section 5, in which the study's limitations and recommended future research are also identified.

2. THEORETICAL FRAMEWORK

2.1 Knowledge Visualisation Perspective

The field of Knowledge Visualisation focuses on creating and transferring knowledge through visualisation (Eppler and Burkhard, 2004; Meyer, 2010; Yan et.al., 2011). Eppler and Burkhard (2004) presented a widely accepted definition of KV, stating that it *"is defined as a field that examines the use of visual representations to improve the creation and transfer of knowledge between at least two people. Knowledge visualization thus designates all graphic means that can be used to construct and convey complex insights"*.

KV tends to improve the transfer and creation of knowledge between people by providing them with the means to express what they know. Consequently, KV tends to increase knowledge-intensive communication between individuals; for example, by relating new insights to concepts already understood (Eppler and Burkhard, 2004). Eppler and and Burkhard (2007) proposed a revised

definition of KV as *"the subject that studies how to improve complex knowledge creation and transmission between two or more applying visual representation"* (p.18). The primary goal of KV is to support knowledge creation and sharing processes. Burkhard (2005) compared Knowledge Management (KM) and KV and concluded that KV is classified as a component of KM, mainly because knowledge transfer is a key process in knowledge-intensive organisations. Burkhard

2.1.1 Knowledge Visualisation Format

According to Eppler and Bresciani (2013), KV refers to all graphic means that can be used to develop or mediate experiences, methods or skills. KV encourages the creation and transfer of knowledge by providing users with an extended range of formats to express and share what they know. The transfer of visual knowledge is complex and challenging as the recipient's background cannot be distinguished. Visual formats need to be specific, but to become knowledge, information must be processed, meaningful and integrated into the user's mental knowledge structure. KV formats may include a sketch, diagram, map, images, physical model and interactive visualisation (Meyer, 2010). Starting with early symbols, visualisation formats have been designed to improve and enhance knowledge sharing and overcome limitations of time and space (Katuscakova et al., 2019).

For the actual creation and transfer of knowledge through visualisation, Burkhard (2005) stated that at least five perspectives should be considered. The framework distinguishes six types of knowledge: declarative knowledge (knowing what), procedural knowledge (knowing how), experiential knowledge (knowing why), knowledge about people (knowing who), location-based knowledge (knowing where) and knowledge based on legislation or values (know-what-if). With the help of the function, it is possible to differentiate between different aims for the use of KV, including knowledge sharing through visual means, knowledge creation, learning from visual representations, visual coding of experiences in the past for future users or knowledge mapping (Eppler and Burkhard, 2004; Elouni et al., 2016). The target group perspective, on the other hand, underlines the fact that knowledge visualisation must satisfy the preferences of primary and potential target groups. Their background needs to be taken into consideration, in addition to their expectations when choosing a display format. The situation perspective view emphasises that the use of visualisation depends on the physical or virtual environment and the number of people interacting to manage knowledge.

Finally, the format perspective view outlines the view formats into seven main groups that use media prerequisites as a ranking criterion.

2.2 Knowledge Visualisation in the decision-making process

For all organizations, the decision-making process is one of the most important activities. It is a process involving choices, and this process generally consists of several steps: identifying problems, generating alternatives, evaluating alternatives, choosing an alternative, implementing the decision,

and evaluating decision effectiveness (Schoenfeld, 2011). The KV formats help decision-makers to see patterns in data that are more difficult to detect through rational methods, improving decisions (Lurie and Mason, 2007). According to Lurie and Mason (2007), the use of KV formats in decision-making shows higher performance, in terms of speed, appropriateness, accuracy and completeness. KV formats that shape and present information more effectively facilitates better communication and supports sense-making (Al-Kassab, 2014). Visualisation can help to support decision-making processes, but it is important to understand its role in terms of knowledge. Visualisation formats can be interpreted as knowledge enablers and could influence knowledge processes such as sharing, integrating and translating (Canonico et al., 2021). Using appropriate visual representations allows us to present knowledge at a given moment and link it to previous knowledge, facilitating knowledge dissemination for decision-makers and problem-solving. Diagrams, tables and maps are useful for representing precise and indexical information, both quantitatively and qualitatively, supporting decision-making by constraining the set of alternatives that one must consider during a decision-making activity and specifying paths and commonalities among different problem states within an information space (Parsons and Sedig, 2014). Decision-makers need to be aware that KV can enhance knowledge processes and bias them by constraining the attention to a limited set of alternatives, focusing the attention on the wrong variables or encouraging inaccurate comparisons (Al-Kassab, 2014). KV investigates the use of visualisation techniques to facilitate communication in knowledge-intensive processes and support the creation of new knowledge by using visual techniques. It also explicates, shares or develops knowledge and supports the creation of visualisations for contents that constantly change, such as a process or complex project (Burkhard, 2006).

3. METHODOLOGY

In this study, a dual methodological approach has been implemented: qualitative and exploratory. The qualitative research approach is appropriate for obtaining a greater description of the phenomenon by the complex nature of the organisations under observation. In fact, knowledge, due to its immaterial nature (Moustaghfir and Schiuma, 2013; Vesperi, et al., 2019), is difficult to capture and observe with different methodologies. This explains why this approach is used, where the "theory is founded" on the participants' experiences, behaviours, and attitudes. The exploratory nature aims to build the theoretical premises regarding KV, the use of KV in universities and the strategic ability to support decision-making. The case study structure is useful for fully understanding an organisation in its context (Crowe et al., 2011, Hyett et al., 2014). The use of several cases brings out the common characteristics of the same phenomenon in different contexts. The case studies identified in this study are two public universities from two European countries (Italy and Spain). We decided to select two

universities with similar organizational characteristics in terms of size, student population and departmental organisation. The case studies investigate two public universities in two different European countries (Italy and Spain), most affected by the COVID-19 health emergency. The Italian university is "Magna-Græcia" University of Catanzaro (UMG- ITALY) and the Universidad de Jaen (UJA-SPAIN).

The analysis of universities brings us to the organisational actors who above all can teach about the management of the COVID-19 emergency to work in coordination and overcome decision-making problems. While analysing the case studies, the interviews' documents and transcription, the quality indicators of the rigour of the case study research that Yin (2003) proposed, were used. Specifically, the analysis was based on the rigour and relevance of the results. Methodological design and execution define the rigour of the methodological process (Remenyi, 2012).

Three data collection techniques were used: desk analysis, participant observation and semi-structured interviews (Schiele and Krummaker, 2011). The documentary analysis made it possible to understand and identify the organisational characteristics of the case studies and the response models to COVID-19. Several documents were examined: COVID-19 university regulations and measures and university websites. The data collected with the documents' analysis made available and published on the university websites were integrated during the interviews with the university decision-makers. To increase the quality of the material and identify significant consistencies with the aim of the research, a thematic analysis is carried out (Patton, 2002). To make comparable interviews, the researchers conducted interviews with decision-makers from the two universities, who have functions specifically related to the KV. The researchers conducted the interviews via video meetings. The interviews lasted from 40 to 65 min. Specifically, the UMG researchers interviewed the General Manager. The UJA researchers interviewed the Deputy Rector, who is responsible for communication.

At the end of each interview, the researchers who conducted the interview shared and discussed the interviews' results with the interviewees, based on the approach described by Ricoeur (1986; Kahkonen, 2014; Canonico et al., 2021).

Finally, participant observation was done by the researchers who carried out the field work by accessing the university premises and verifying the KV tools present.

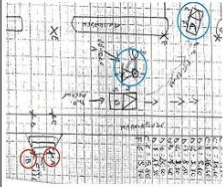
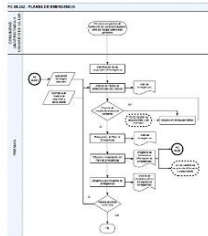



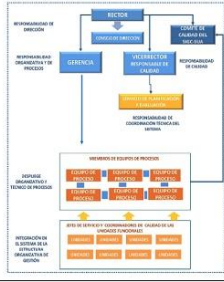

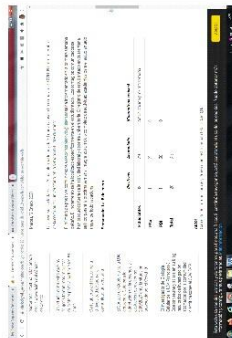
4. FINDINGS AND CONCLUSIONS

This study is based on the framework for KV proposed by Burkhard and Eppler's model (2005, 2007) helps us to identify and understand the use of KV in the university context at UMG and UJA, explaining the interactions of the decision-maker with the use of formats for KV. KV is understood as

a crucial component of Knowledge Management (KM), where decision-makers need to explore and obtain information and then manage and share knowledge.

In the emergency phase, making knowledge visible (accessible, discussed and shared), represented a support tool especially for the universities in this context. The decision-making process—following a temporal sequence—begins when the UJA Deputy Rector and UMG General Manager have to make a feasible and effective decision in a short time (Emergency Phase: COVID-19) using heuristic sketches, diagrams, images, maps, objects, etc. The reason visual archetypes, containing representations of the real world, are used is because humans have the ability to process images quickly and relate them to previous knowledge already associated with a known image. When you see an image, you know what it represents even though you don't remember the name/concept. It's important for the decision-maker to be aware of the type of recipient that identifies the target group and the context of the recipient, which can be an individual, a team, an entire organisation or a network of people. In these case studies, it was fundamental for the two universities to know the context and the cognitive background of the recipient to find the right visualisation method for the KV. KV offers a systematic approach to creating, codifying, transferring and identifying knowledge at various levels: among individuals, from individuals to groups, between groups and from individuals and groups to the entire organisation. To do so, knowledge must be recreated in the mind of the receiver (El Sawy et al., 1997). This depends on the recipient's cognitive capacity to process the incoming stimuli (Vance and Eynon, 1998). Once the knowledge is displayed, the decision-maker acquires feedbacks from the target audience. Thus, the person responsible also needs to convey it in the right context and in a way that it can ultimately be used and remembered.

Fig. 1 – Comparison of KV format in case studies

Formats	UMG	UJA
Sketches Simple drawings that help us visualize the key features and the main idea very quickly. They can be used in group reflections and communication processes as they make knowledge debatable. Additionally, they allow room for interpretation and thus stimulate creativity and keep the attention of a group fixed on the discussed object.		
Diagrams Schematic representations that are used to display, explore and explain relationships. They reduce complexity, make abstract concepts accessible and amplify cognition. Unlike sketches, they are precise and determined. Examples of the diagrams are bar- and pie charts and Gantt-, Fern- or process diagrams.		
Images They represent reality but can also be artistic. They are able to address emotions and can inspire, motivate or energise the audience and thus are often used for advertisements (images are visual).		
Knowledge Maps Consist of two components: The context, which should be easy to understand for all users of the map, and project milestones are mapped within this context.		
Concept Maps Intended to represent meaningful relationships between concepts in the form of propositions.		
Interactive Visualization Computer-based interactive visualizations allow you to access, control, explore, combine and manipulate different types of complex data, information and knowledge. They also fascinate the recipients and enable interactive collaborations and thus help create new insights.		

Source: our elaboration

The decision-maker, with the help of their competences and acquired experience, will initiate a new decision-making process that will lead to the construction of a new visualisation. In this new phase, the decision-maker will be able to refine or add further KV formats until the creation, codifying, transfer, identification, and so on of knowledge is successful.

The integrated use of multiple formats such as diagrams, graphs, schemes, mind maps and interactive visualisations was indicated by the two interviewees as support during the decision-making process. KV, in the era of the pandemic, has allowed them to homogenise knowledge and speed up choices. The usability of the visual format has improved decision-making, and KV has created a new environment for it. Using this format made it possible to acquire knowledge information as it was supported by visual elements. Particular emphasis was placed on internal customers, actively involved in the design and implementation of the display formats. The display formats have been evaluated very well in terms of performance and preferences by the internal customers themselves, and the analysis of the visual formats has shown that the different types of KV have a specific degree of usefulness depending on the activity. Knowledge visualisations were used to explain and answer questions about why, what, whom, when and how. The diversity of the target audience has emphasised that KV must be adapted to the preferences of the target audience (teaching staff, administrative staff, students, etc.), which then must be implemented into the different types of KV. The formats used in the universities can inform multilevel coordinated decision-makers on how to improve knowledge creation, identification and transfer. In the two universities, to date, a Model for Quality Management and a Strategic Plan for Emergencies have been implemented.

5. DISCUSSION

The results of this study have provided significant insights into theoretical, methodological, and empirical reflections.

From a theoretical point of view highlights the KV central role in the debate on decision-making problems. KV allows you to create, transfer and share knowledge in a new and rapid way, supporting decision-making processes through visual representations. The empirical analysis of the case studies allowed us to answer our research questions. This empirical observation of universities in two different European countries has highlighted the role of KV in supporting decision-makers during the COVID-19 pandemic. The first research question aimed to understand the support that KV provides in the context of emergency management in universities. Through interviews with decision-makers, the analysis of internal documents and participatory observations from both universities, the data collected show that the use of KV has had an overall positive impact on a social and emotional level

(collaboration and involvement), leading to better communication and a better understanding of information and data, as well as decision-making.

The different KV formats adapt to organizations' characteristics, allowing them to speed up their decision-making process. The results of the interviews and the analysis of the documents show that KV is widely used in universities. In the preliminary phase of the interviews, the universities' decision-makers showed their awareness of the potential and importance of KM. However, the use of different KV formats in universities confirmed that decision-makers were not aware of KV. Despite this gap, decision-makers have made extensive use of different KV formats. KV formats have helped decision-makers see patterns in data that are more difficult to detect through rational methods, improving decision-making (Lurie and Mason, 2007). Visual representations can expand problem-solving capabilities by allowing more data to be processed without overburdening the decision-maker (Lurie and Mason, 2007, p. 2).

The results of this study highlight that KV supports decision-makers at all stages of the decision-making process. The interviews with the decision-makers made it clear that visualisation can help support decision-making, but it is important to understand its role in terms of knowledge. Hence, KV formats allow for more efficient and faster knowledge management (e.g., sketches and maps). The formats have been valid support in the COVID-19 emergency phase for both UMG and UJAN. Furthermore, the different formats of KV were used with regard to the recipients (administrative staff, teachers, students, etc.). Strategic plans made it possible to introduce the new KV formats quickly into the organisations. The strategic plans also represented the main way to introduce KV formats to universities. According to Lurie and Mason (2007), the use of KV formats in decision-making shows higher performance, in terms of speed, appropriateness, accuracy and completeness. KV formats shape and present information more effectively, facilitates better communication and supports the creation of meaning (Al-Kassab, 2014).

The empirical observation of universities, in two different European countries, has allowed us to highlight how KV formats fit into the decision-making process.

KV, in its different formats, has allowed decision-makers to make the decision-making process more flexible, quick and shared. The empirical observations revealed that KV is particularly effective in sharing new knowledge. The introduction of new KV formats is linked to the introduction of regulations, confirming that visualisation increases the speed of the dissemination of knowledge.

From the methodological perspective, the results of this study highlight the effectiveness of the methodological tools used (analysis of case studies, interviews and participatory observations) to study the phenomenon of KV in complex organisations. The use of a qualitative methodology, in fact,

has made it possible to grasp the more submerged and emotional aspects of the use of the visualisation of knowledge in the decision-making process during the emergency phase.

Therefore, this article aimed to contribute to the debate on managerial and social implications. First managerial implication is directly related to the real comprehension of KV regarding people involved in decision-making processes. In addition, to understand its real impacts, it is necessary to study how people in organisations act regarding KV by creating sufficient awareness and also acquiring more knowledge, which we hope can be the next step of the investigation.

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ARTIFICIALLY INTELLIGENT INVESTORS

Vera, Jose¹; Avella, Antonella²; Neubert, Michael²

¹United International Business Schools, UIBS, United States

²United International Business Schools, UIBS, Zurich

ABSTRACT

The purpose of this study is to explore the perceptions of subject matter experts (SME) about the use of artificial intelligence for stock trading. AI is already used to analyze large and various amounts of data to support decision-making of future predictions for many organizations today. Looking ahead, AI has the potential to disrupt and be a game changer for the stock trading market. The theoretical foundation used will be the Efficient Market Hypothesis. This theory helps us conceptualize the market that AI is developed to predict. The research design was a multiple case study where we identify themes from the data collected from interviews of SME and case studies to gather a better understanding of this phenomena. The findings of this study revealed the following themes about the use of AI for stock trading 1) Efficiency, 2) Data processes, 3) Trust, 4) Other Limitations, and 5) Human Supportive. This concluded that AI is efficient and used as a supportive tool for stock trading. A limitation to this study lies in the sampling methodology. These results may be helpful to scholars by providing more insightful information regarding AI in stock trading and to practitioners by bridging the gap between theory and real-market applications.

Keywords: Artificial Intelligence, Augmented Intelligence, Deep Reinforcement Learning, Ensemble Learning, Fuzzy Logic.

INTRODUCTION

A nation's stock market can be considered as a key indicator of the dynamics of its economic activity (Achame et al., 2020). Recently there has been an increasing amount of attention and research in applying AI to the financial industry (Ferreira et al., 2021). One person who introduced a systematic strategy that mostly relied on algorithmic trading was James Simon, a mathematician who founded Renaissance Technologies in 1982 (Jansen, 2020). Their Medallion Fund has had an annual return of 35 percent since 1982, which is not available to outsider investors (Jansen, 2020).

The problem is that humans are at times emotionally invested in their stock trading. Moreover, investors are not always rational when it comes to making decisions therefore, AI can directly approximate investor sentiment without being subject to common errors (Milana & Ashta, 2021).

The purpose of this paper is to explore the perceptions of SME about the use of artificial intelligence for stock trading. The themes emerging from multiple sources of evidence, interviews of our SME, and several real-life case studies allow triangulation and generation of robust conclusions.

This paper aims to address the call for research from Duan, et al. (2019) who has identified a gap in the current literature in fully understanding the use of AI in decision making processes and a need to understand the expectations in implementing AI to stock trading (Ferreira et al., 2021). Through a theoretical foundation of implementing AI in the market cross paths with the efficient market hypothesis.

The order of this paper is as follows. The next section will provide a literature review and a conceptual framework will be defined. Afterwards we will explain the research methodology used for this paper. Then we will define themes related to the data and link to relevant case studies in order to answer the research question. Afterwards we will briefly discuss the findings and the conceptual framework will be confirmed or reformed. Lastly, we will summarize the research performed on this paper and define some key takeaways.

LITERATURE REVIEW

The search strategy for this paper was Crawling and Indexing used by the web search engine google scholar. Databases accessed in order to reference articles used were ProQuest, The journal of finance, ResearchGate, and Perlego. Key words used while searching for relevant information were “AI in the stock market”. Seminal literature was used from the years 2019- 2022 (though some older information was used to define important concepts). In order to lay the foundation for this topic, systematic literature was initially searched which led to other sources that had relevant information for this topic.

Conceptual framework

The theory referenced for this paper is the ‘efficient market hypothesis’ (Fama, 1965, as cited in Lo, 2008). A theory that suggests the market prices fully reflects all available information (Lo, 2008). This theory is tested every day by investors who use technical analysis to support their trading decisions. However, the problem with humans is that they can be emotionally invested and do not stay rational when it comes to processing information. The application of AI eliminates this problem and makes for more efficient automated trading decisions. Moreover, even after many advanced statistical analysis and theoretical models, there is still no consensus among economists (Lo, 2008). Quite simply the very existence of these AI models threatens this theory’s claim. For this paper, the conceptual framework which best described the AI trading process is displayed in figure 1. This approach displays a direct need for human intervention which was inspired by Jansen (2020). The model must be defined by

humans who have expertise in the domain, be selective of data, modify the models as needed, and most importantly use the results appropriately (Jansen, 2020). Some important elements outlined by Jansen's framework are the following; data, domain expertise, tools, model objectives and performance diagnostics, backtest overfitting, and transparency of black-box models (Jansen, 2020). The key highlight of this model is the human capability to develop, modify, and make the final decisions.

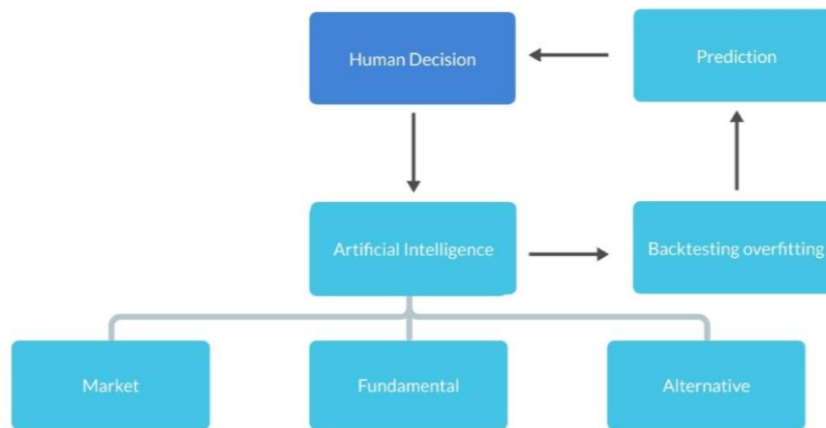


Figure 1. Conceptual Framework Source: Authors inspired by Jansen, 2020

The reason this framework was chosen was for its applicability and similarity to other research papers which will be discussed in more detail in this section. For example, this framework is similar to the neural network presented by Raj Azhikodan (2019) and the decision support system designed by Acheme et al. (2020).

Literature review

The AI has been utilized in stock trading for several years now. Models that have been reported to solve the complexities of the stock market are statistical models, AI/machine learning, technical and fundamental analysis, and agent-based models (Acheme et al., 2020). Recent studies have seen AI models called ensemble learning, to predict nuclear energy consumption, energy use, financial expert systems, power systems security, bariatric surgery data, short term solar irradiance, and many others (Jiang et al., 2020). The ensemble learning models had not been used for stock predictions until just recently. Let's take a closer look at each of these models and the distinct differences that can be determined.

One model used the combination of technical analysis, fuzzy logic, and mobile agents to propose a useful decision support tool for investors of the stock market (Acheme et al., 2020). A method which incorporated many different AI models called ensemble learning, has been recently shown to perform better than single AI models (Jiang et al., 2020). A new two-stage ensemble model which combined the empirical mode decomposition (EMD) (or variational mode decomposition (VMD)), extreme learning machine (ELM) and improved harmony search (IHS) algorithm for stock price prediction, which are respectively named EMD-ELM-IHS and VMD-ELM-IHS have been used to trade stocks (Jiang et al.,

2020). A study published in the same year showed the use of another ensemble strategy. However, this strategy was the combination of three deep reinforcement learning methods called Proximal Policy Optimization (PPO), Advantage Actor Critic (A2C), and Deep Deterministic Policy Gradient (DDPG) (Yang et al., 2020). A paper published in 2019 displayed yet another strategy involving two algorithmic techniques which was deep deterministic policy gradient for reinforcement learning and recurrent convolutional neural network for classification of news sentiment (Azhikodan et al., 2019). As we can see there are many different types of models being researched to trade stocks. Let's view each model's frameworks and results. The flow and architecture of the Agent-based Fuzzy logic Stock Market (AFUSM) model can be seen in Figure 2.

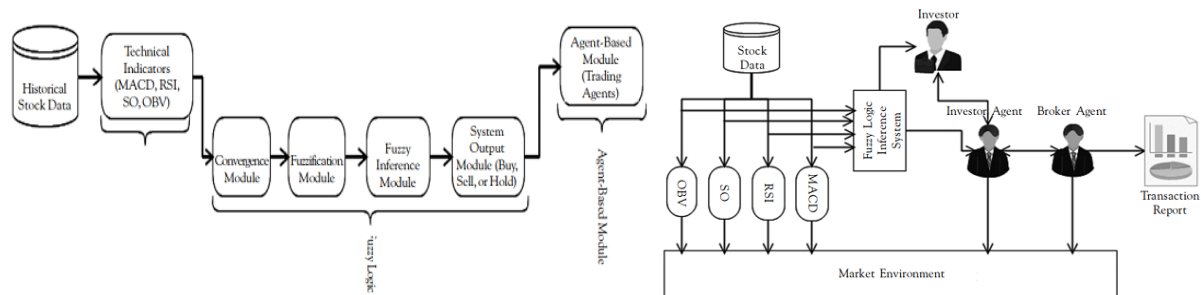


Figure 2. Process Flow & Stock Market Model Architecture Source: (Acheme et al., 2020)

From the results in the literature, the AFUSM offered over 83% correct trading decisions thus, providing a useful decision support tool for investors of the stock market (Acheme et al., 2020). The analysis for the EMD-ELM-HIS and VMD-ELM-HIS was based on study samples using SSEC, S&P 500, and HSIHKE (Jiang et al., 2020). The results were as follows: 1) EMD-ELM-HIS & VMD-ELM-IHS obtained better results than those based on one stage model, 2) EMD-ELM-HIS & VMD-ELM-IHS perform higher in accuracy and stability when compared to other models, 3) The Sizes of sliding window and training set have a significant impact on the predictive performance. The results imply that the models can be used as an efficient tool for stock prediction (Jiang et al., 2020). The results of the ensemble strategy that used three deep reinforcement learning outperformed all three algorithms acting individually (Yang et al., 2020). A chart of results along with the framework of the model use for this paper can be found below.

(2016/01/04-2020/05/08)	Ensemble (Ours)	PPO	A2C	DDPG	Min-Variance	DJIA
Cumulative Return	70.4%	83.0%	60.0%	54.8%	31.7%	38.6%
Annual Return	13.0%	15.0%	11.4%	10.5%	6.5%	7.8%
Annual Volatility	9.7%	13.6%	10.4%	12.3%	17.8%	20.1%
Sharpe Ratio	1.30	1.10	1.12	0.87	0.45	0.47
Max Drawdown	-9.7%	-23.7%	-10.2%	-14.8%	-34.3%	-37.1%

Figure 3. Results Source: (Yang et al., 2020)

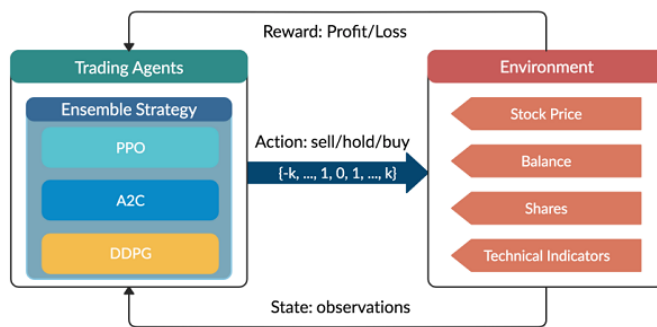


Figure 4. Conceptual Framework Source: (Yang et al., 2020)

The researchers concluded that their ensemble strategy can be used to effectively trade on the stock market (Yang et al., 2020). The two algorithmic technique which used reinforcement learning and neural network to classify news sentiments can be viewed in Figure 5.

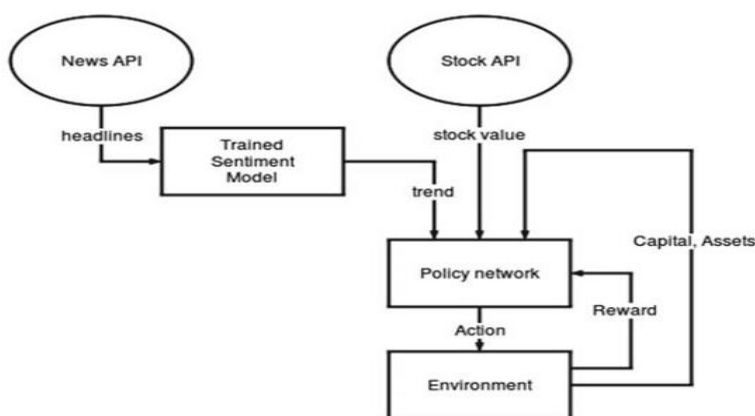


Figure 5. Conceptual Framework Source: (Azhikodan et al., 2019)

The authors found that the accuracy of multiple tests performed averaged 96.88% (Azhikodan et al., 2019). The analysis written by these authors gave good proof that reinforcement learning can be used to trade stocks. Although this system created was designed to work with the stocks of one company, the article claims it can be scaled by coordinating multiple networks and training a master network (Azhikodan et al., 2019).

While there is plenty of work also implementing news sentiments into their AI models, there is a recent popularization of social networks with a large number of comments about financial assets which is becoming an important source of information to analyze (Ferreira et al., 2021). The gap in the literature is that few papers consider using both news as well as social networks (Ferreira et al., 2021). This can be a complex topic as innovation continues to implement new ways of communicating with private groups and online forums. We have witnessed the recent impact and correlations of the short-squeezed stocks which were previously discussed in the forum WallStreetBets (Song, 2021). This can be a useful source to implement as it seemed to have changed people's traditional opinions on online forums (Song, 2021).

RESEARCH METHOD

For the purpose of this study, which is to explore the perceptions of SME about the use of artificial intelligence for stock trading, a multiple case study research method was implemented. A qualitative multiple case study research design was chosen based on the explanatory nature of the research question (Yin, 2018). Participants to the interviews were selected through purposive sampling to collect rich data from different perspective (Merriam & Tisdell, 2016). This paper used a purposive sampling method in order to collect interview data from nine SME. The SME consisted of 8 individuals who possess a master's degree and 1 who possesses a doctorates degree. The subject matter expert's opinion of their knowledge about the application of artificial intelligence in decision making processes had a median of 7/10. The research questions typically lasted 20-40 minutes to complete and the responses were reviewed in December 2021. Only the open-ended questions which were relevant for this study were selected. The list of questions used can be found in Table 1.

Questions
Question 1 - Tell me about the most important trends and technological solutions of the use of artificial intelligence in (international) decision-making processes?
Question 2 - Tell me about how artificial intelligence is used in (international) decision-making processes (use cases)?
Question 3 - Tell me about why artificial intelligence is used in (international) decision-making processes (effects)?
Question 4 - Tell me about the risks and challenges of the use of artificial intelligence in (international) decision-making processes?
Question 5 - Please share your thoughts, opinions, and ideas about the use of artificial intelligence in (international) decision-making processes?

Table 1. *Questions answered by SME* Source: Authors

To interpret meaning the data was analyzed using a thematic approach (Saldana, 2018). Data saturation was reached after 9 interviews (Eisenhardt, 1989). The analysis of this data was followed by cross-case analysis for relevancy in the finance industry. A total of 8 cases were found using a search engine and on company websites. For clarity, please view table 2 to reference the case studies in the next section.

Case#	Company	Title	Link
C1	Trading Technologies	Commodity trading firm	https://www.tradingtechnologies.com/enterprise-solutions/study-commodity-firm/
C2	ScienceSoft	Development of Automated Trading Software Powered with Data Science	https://www.scnsoft.com/case-studies/data-science-for-an-automated-trading-system
C3	BetterTrader	How Artificial Intelligence Helps You Understand Leading/Following Markets	https://www.kavout.com/the-kai-esp-for-technology/
C4	Kayout	Technology – Kai Enhanced Sector Portfolio	https://www.kavout.com/the-kai-esp-for-technology/
C5	Equobot	AIEQ (AI Powered Equity ETF)	https://etfmg.com/funds/aieq/
C6	Equobot	AIQ (AI Powered International Equity ETF)	https://aiiqetf.com/

C7	J.P. Morgan	Investment Possibilities with Artificial Intelligence	https://www.jpmorgan.com/insights/research/machine-learning
C8	J.P. Morgan	Machine Learning in Value Investing	https://www.jpmorgan.com/insights/research/machine-learning

Table 2. Case Studies Source: Links available in table

By providing current literature, analyzing interviews, and linking to case studies we perform data triangulation (Carter et al., 2014). Data triangulation provides a better understanding of this phenomenon.

RESULTS

For this section we will refer to the nine SME of the interviews as “P” for participants followed by a number (P1, P2,...etc.). For the case studies we will reference table 2 in the methodology section as “C” for case-study followed by the number (C1, C2,...etc.). The following information will be structured by introducing the theme, quoting participants, followed by quoting case studies.

Theme: Efficiency

From cost reductions to automation processing, the application of AI seems to improve a company's efficiency across the financial sector. P1 wrote “1) AI to predict consumer behavior and demand based on marketing activities, 2) AI used in foreign trade negotiations to better understand how the change of different contractual elements (e.g., price, payment conditions, guarantees) lead to different outcomes, 3) AI used to analyze the attractiveness of foreign markets and to prepare market entry and exit decisions”. This is especially important in stock trading, as a vast amount of data needs to be analyzed carefully. As we saw in the literature, recent AI models have been using news sentiments for their stock predictions. C5 claims its ETF provides the following, “Analyzing millions of data points across news, social media, industry and analyst reports, financial statements on over 6,000 U.S. companies, technical, macro, market data and more”. Additionally, C8 stated “While there are a number of valuation metrics to account for when calculating the “fair value” of stocks, machine learning has proven to offer a new perspective when assessing value strategies.” Moreover, P7 wrote “JP Morgan is utilizing AI to rejuvenate an index fund that has underperformed both indexes over long-term periods. The company started to employ a strategy that couples traditional active management with insights using data science (AI).”, coincidentally aligning with C8 which states, “AI has made its way into Financial Services with automated trading and investment discovery, trading strategies, robo-advisors, voice-based commerce, customer behavior analysis, and chatbots for customer services, identity verification and fraud detection.”. C7 also provided a bar graph (Fig. 6) of “What is the current stage of Artificial Intelligence solutions Adoption within your Organization?” based off data collected from a survey.

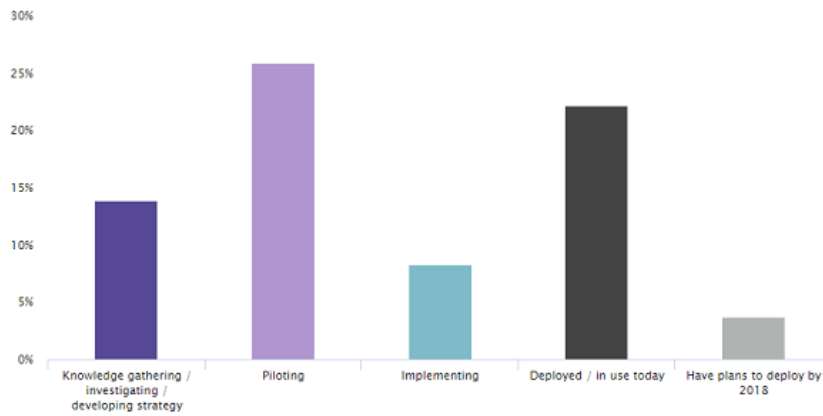


Figure 6. A.I solutions adoption bar graph Source: <https://www.jpmorgan.com/insights/research/machine-learning>

This may be where we start to see a shift in this chart from piloting to implementing. As P6 mentioned “AI is being compared to the 4th industrial revolution and it represents the future of doing business”. “All in all, deep learning architectures have been proven to be effective and efficient to predict the price of stocks or make trading decisions” (Wu et al., 2020).

Theme: Data Processing

Artificial Intelligence has provided incredible computing power to manage and process massive amounts of data. Regarding the financial sector, P8 wrote “...EQT as Swedish Asset management company has used Advanced analytics and Big data to create an AI tool which analyses startups based on their lifecycle instead of the deal life cycle. This means a more sustainable approach to investments from VCs. Less risky investments, due to higher amount of information through different mediums”. There’s a demand to better manage risk and C3 wrote “Besides aiding you in knowing what to trade, our Trade-Ideas let you know when you should not trade something”. Similarly, you can work with risk for higher returns as C6 wrote “AIQ processes millions of market signals each day to formulate a target portfolio. The EquBot algorithms utilize machine learning on financial big data sets to optimize positioning for higher risk adjusted returns”. The problem we faced before AI was that we didn’t have as many available options as we do now. P7 wrote “The current trends of going digital is creating a surplus of data that conventional analytical tools struggle. Furthermore slow decisions can hurt the ability of capturing new business opportunities. Artificial intelligence allows for companies to analyze information and make decisions faster”. Additionally, P5 wrote “Our understanding of complex situations is possible now only because of the use of technologies such as Big Data or Machine Learning, and that led to a new level of intellectual tasks to be performed by humans, tasks that, in the past were impossible if the person was supposed to do what AT technologies do now”. We can see a trend of productivity and efficiency using the computing power AI has evidently shown. A quote from

the CEO of the Equibot from C6, Chida Khatua, wrote “AI will become an investment industry necessity as the amount of market data will only continue to grow”.

Theme: Trust

Arguably, trust can be viewed as a limitation (theme 4), however, there is a need to detail this section as it covers very important topics discussed by the SME. To establish trust in consumers, C2 wrote “To ensure that the system’s predictions and recommendations are accurate and reliable, our team tested the developed algorithms on historical stock exchange transactions and validated them on real-time data”. Additionally, C1 wrote “TT provides Avoid Orders That Cross (AOTC) functionality that prevents traders at a firm from trading with each other. This not only avoids potential illegal activity, but can also improve executions for both traders involved and reduce execution fees”. The need to validate the reliability of implementing AI in trades is evident in the case studies provided. In contrast, P1 argued “People rely more on human decisions as AI decisions might not be transparent to people. Nevertheless, the younger the generation, the more people rely on AI as it becomes "normal" to use a computer and to rely on a decision based on big data. In lots of use cases, it will just be more precise to rely on AI as they are using and processing way more detailed information than a human decision”.

Moreover, the following lists the issues also mentioned by the SME regarding Trust: P2 – “In lots of today’s application, decisions are still made by humans as safety valve.”, P4 – “Challenges and risks include: Bias, security, ethical issues, liability and accountability, lack of trust from human-fear”, P5 – “AI implementers should be extremely careful of the bias they may introduce to predictive systems, if a true bias-free pattern recognition or assisted decision-making is desired.”, and P7 – “AI Bias for instance runs the risk of AI underperforming if the data that the AI is fed is incomplete or lacks tacit knowledge and experience. Underperforming AI can hurt people’s trusts of AI and create what some experts called AI winters.”

It is clear that the SME expressed a great concern for trust in AI. It was detailed clearly by P2 who wrote, “Unfortunately, most of these advanced AI models are complex black boxes that are not able to explain why they reached a specific recommendation or a decision.” which was argued by Jansen’s book in how to gain insights from black-box models. His book quoted the following, “... there is some controversy over how important transparency around model predictions should be. Geoffrey Hinton, one of the inventors of deep learning, argues that the reasons for human decisions are often obscure. Perhaps machines should be evaluated by their results, just as we do with investment managers.” (Jansen, 2020).

Theme: Other Limitations

Limitations such as job loss, culture impact, liability, biased data, and trust which was covered above,

all push against the use of AI. These issues may stem from the inevitability of something obtaining liability. Attention to this issue was mentioned by P6 in saying “Concerns about AI in terms of bias, privacy, liability and errors hinder or slowdown the use and development of AI technologies for decision making.” and P5 by saying “We will also need to develop a policy for liability of those decisions made by AI”. This topic is very dependent on the type of AI being implemented. For example, case studies researched had liability legal disclaimers such as; C4 - “Legal Disclaimer – Returns represent past performance and do not guarantee future results. Investment returns and share prices will fluctuate with market conditions, and investors may have a gain or loss when shares are sold.”, C5 & C6 (same company) - “Performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate so that an investor’s shares, when redeemed, may be worth more or less than their original cost. Current performance of the Funds may be lower or higher than the performance quoted”.

Additionally, job loss and cultural views challenge the implementation of AI. P4 wrote “Cultural change must accompany AI advancement in order to get the best out of it...”, P8 quoted “...reduction of the analysts jobs.”, and P9 said “Automation-spurred job loss”. These are surely issues that will rise for more careful consideration. This quote can be followed up with C7 which stated “Artificial Intelligence enhances quality control and improves operational effectiveness through digitized information assets. This allows businesses to focus time and resources on identifying new opportunities and customers, as well as different channels to market”. “The main advantages of using computational approaches to automate the financial investment process include the elimination of “momentary irrationality” or decisions made based on emotions, ability to recognize and explore patterns that are looked over by humans, and immediate consumption of information in real-time” (Ferreira et al., 2021).

Theme: Supportive

While being AI powered all use cases were discovered to have some form of augmented intelligence. The data from our interviews display that SME have an uneasy feeling towards autonomous implementation, they suggest using AI as a supportive tool in decision making. P4 mentions “AI processing vast amount of data internal/external and bringing options to human with industry expertise to take final call.”. This directly aligns with the literature which states “We emphasized that informative data is a necessary condition for successful ML applications. However, domain expertise is equally essential to define the strategic direction, select relevant data, engineer informative features, and design robust models.” (Jansen, 2020) P2 closely argued “Cultural and ethical challenges: Humans do not want to 100% dedicate the decision to a computer. They would like to have the opportunity to decide by themselves. The AI should mainly draw some scenarios, potential perspectives, and future developments but not decide (in an intransparent way) by the system itself.” In retrospect to the job

loss issue described in Theme 4, P3 had a different view, "AI is less about replacement of humans but rather complementing human abilities -its application presents a number of ethical concerns which need to be addressed - its implementation is less about technology but more about culture, ways of working to support adoption." This is truly evident in the use cases as C4 describes their mission to be "Our mission is to empower institutions and investors with augmented intelligence to generate alpha, manage wealth and do more with less." C6 also writes the following "The portfolio managers may actively and frequently trade securities or other instruments in the Fund's portfolio to carry out its investment strategies." This shows who the real drivers of these trading decisions are, humans supported by AI technology. "...automating the trading with intelligent software agents provides investors with a more robust and efficient decision support system." (Acheme, 2020).

DISCUSSION

Aiming to uncover the perception of SME about the use of AI in stock trading, a thematic analysis was performed on several interview questions. The results suggest that SME believe AI to be efficient. Moreover, according to Wu et al., (2020) AI has been proven to be effective in predicting the price of stocks. Data processing by AI was a key role of productivity mentioned by the SMEs. This was evident by the ensemble strategy described by Yang et al. (2020), this model was combined to use fundamental data (earnings report) and alternative data (market news, academic graph data, credit card transactions, and GPS traffic, etc.) to predict a company's future performance. There is some common fear in trusting AI discussed by the SMEs. This may stem at least partly from other limitations mentioned, such as job loss, culture impact, data bias, security, ethical issues, liability, and accountability of AI decisions. The trust factor was acknowledged by Jansen (2020) in his book where he quoted Geoffrey Hinton, he argued "Perhaps machines should be evaluated by their results, just as we do with investment managers." (Jansen, 2020). The limitations therefore impede the autonomy of AI and in the eyes of our SMEs, AI should be used as a human supportive tool in decision making processes. This may contradict some literature as mentioned by Milana & Ashta, (2021), which states that AI can solve the investors irrationality factor of making trading decisions. Additionally, Acheme (2020), mentioned automating the trading provides investors with a more efficient decision support system (Acheme, 2020).

The findings of this research have enabled us to stand by the initial conceptual framework viewed in Fig. 1. A sense of control can be generated by this model. Where each step results in the 'human factor' having control and power to decide which set of data to use, develop the algorithm, back testing, diagnosing performance, evaluating, modifying, and ultimately making the trading decision. The theory mentioned by this paper was the efficient market hypothesis. If the hypothesis holds true, then

the analysis of AI in technical/fundamental analysis will not provide any assistance in trading stocks. However, if AI assists in trading stocks, then the market is not efficient. Proving it by the law of contraposition.

CONCLUSION

Interpretation of findings

This paper explored the perceptions of SME about the efficiency in using artificial intelligence for stock trading. To better understand this phenomenon, a multiple case study was proposed. We were able to analyze themes from responses to research questions by SME, analyze relevant case studies, and compare to current literature to reach triangulation. The findings contribute to closing the gap in the literature from Duan, et al. (2019) and in particular from Ferreira et al. (2021) who have urged us to better understand the role of AI in decision making and expectations in implementing AI to stock trading. The findings from this research confirm five factors characterizing the use of AI for stock trading, namely: 1) AI is efficient and improves stock trading decisions, 2) Data processing can assist in stock trading decisions, 3) Implementing AI in the world of finance has not gained everyone's trust, 4) Limitations such as cultural impact, job loss, liability, and request for human interaction impede AI's progress or development, and 5) AI as Human supportive system. Despite AI models can replicate or imitate the functioning of human brain, the role of human in the loop is still significant in organizations. The human can represent the source of safety and may potentially be the factor that limits returns.

Limitations of the study

The limitations of this study stem from the research design and research sampling strategy. It is important to note that identifying these themes and similarities between the responses of SME and case studies is a limitation due to the nature of this study. Moreover, understanding that the case studies researched for this paper may be biased and therefore, may not necessarily disclose all risks associated by using their AI models.

Recommendations

A need for further research is recommended. More specifically, to study the perceptions of financial trading experts or private equity associates about the efficiency in using artificial intelligence for stock trading. This will steer us in the right direction by analyzing data from participants who are directly involved in the financial sector. Thus, we would be able to compare the thematic analysis which we have presented in this paper. In addition to these qualitative methods, a quantitative study would provide much more insight on the efficiency of stock traders using artificial intelligence.

Conclusions

Conclusively, whether we automate AI trading decisions or simply use them as a supportive tool, we may now understand a broader sense of its potential. This paper may serve as motivation for traders and encourage scholars to continue the research for more insightful information.

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CULTURAL SHOCK AND ACADEMIC CULTURE IN POST-COVID 19 PERIOD

Vesperi, Walter; Ventura, Marzia

Department of Law, Economics and Sociology "Magna-Græcia" University of Catanzaro Campus Universitario "S. Venuta", Catanzaro, Italy

ABSTRACT

Purpose – This study aims to analyze the levels of Culture Shock (CS) that university students manifest after the period of Distance Learning and physical return to university structures. The research deals with the phenomenon from the theoretical perspective of human resource development (HRD).

Design/methodology/approach –Data were collected through a Mumford (1998) questionnaire for the measurement of culture shock (CSQ). 341 questionnaires were collected. The survey sample is made up of university students from 5 Italian universities. Statistical analyzes were carried out to test the hypotheses.

Originality/value – The main innovation of this study consists in evaluating the culture shock of university students, in the phase of returning to university structures, after the distance learning period. Additionally, the study offers an original application to Mumford's (1998) CSQ questionnaire.

Findings - The results show that university students suffer from culture shock upon returning to university structures after the distance learning. The category of university students most affected by culture shock are women, from large universities with an average age of over 30

Practical implications – The results of this study show that universities should focus their attention on the psychological and emotional well-being of students.

Keywords: Shock, University Student, Covid-19, Questionnaire, Human Resource Development (HRD)

1. INTRODUCTION

On 11 March 2020, the World Health Organization (WHO) declared a global pandemic status caused by the SARS-CoV-2 coronavirus (World Health Organization, 2020). As a result, a wave of fear and

panic has been generated within society, often transformed into a rush to purchase personal protective equipment for Covid-19 (surgical mask, disinfectant gel, gloves, medicines and vitamins). Many governments, with the aim to contain the spread of the virus and contagion between people, have started a "lockdown" program, blocking all activities in entire sectors (Mishra et al., 2020; Ayala, et al., 2022). Activities that suffered of the "lockdown effect" included the higher education sector. Consequently, in order not to suspend teaching activities, the universities have decided to realize Distance Learning (DL). The DL can be defined as a new educational and training model based on Information and Communication Technologies (ICT). In a very short time, the teaching activities, traditionally carried out face to face in universities, are replaced by online lessons followed by students in their homes, through online and ICT platforms. Distance learning has spread through asynchronous and/or synchronous modalities mediated by electronic platforms (Clark and Mayer, 2016; Delgado-Gallegos, et., 2021) in order to share and transfer knowledge (Garrison, 2011, Gamage, et al., 2020). During the lockdown, university students had to adapt (without any alternative) to the new method of teaching and learning carried out exclusively online via laptop and telephone (Spicer, 2020; Kuning, 2021). This new environmental condition, in a very short time, has generated a profound impact on people's behaviors, beliefs and norms. In other words, Covid-19 has profoundly influenced the constituent elements of academic culture. As a result, a new academic culture based on online activities was created and quickly accepted (Dardjito and Robiasih, 2020). In line with these assumptions, the new online academic culture is based on the ability of university teachers to provide educational content, through ICT platforms, and to reduce temporal and spatial barriers with students (Bozkurt, 2019, Bozkurt and Sharma, 2020; Laufer, et al., 2021). Distance learning gave university students the feeling of being safe during the rapid spread of SARS-CoV-2 infection. Distance learning has been welcomed by university students and professors as a central element of the new culture of learning and participation in academic life. This new academic culture has been assimilated to a "new normal" (Tesar, 2020; Mseleku, 2020; Casacchia, et al., 2021); or a new way of living and enjoying university lessons during a pandemic. A new academic culture is defined based on new study habits and rules, participation in virtual meetings and a greater focus on the benefits of technology, without moving from home. The current pandemic situation, characterized by a drastic reduction of deaths caused by Covid-19 and a widespread vaccination campaign, after almost two years of DL, university students are faced with returning to university facilities and classrooms. This further change, combined with the perception of a still current risk of contagion, can represent a shock for university students. It is possible to define this shock as a culture shock, represented by the rapid change in the ways to attending lectures and university facilities. Culture shock can be seen as a powerful process of transformation both on an individual and social level of cultural forces (Cupsa, 2018; Furnham, 2019;

Dorda and Shtembari, 2020). Furthermore, culture shock can give rise to a series of emotional reactions (e.g., irritability, fear, stress) in a new environmental and cultural context. Culture shock can be seen as the process of initial adaptation to a new cultural environment (Pedersen, 1994). Several studies (Zhou, et al., 2008; Koris, et al., 2021), have shown that culture shock can have an impact on different aspects of the life of an individual or an organization (Takeuchi and Chen, 2013; Jyoti and Kour, 2017; Deopa and Fortunato, 2022). In the current competitive scenario, employees (or human resources) represent a strategic resource for organizations. For this reason, organizations base their competitive advantage not only on the knowledge and skills of their employees, but also on organizational well-being (Wilson, et al., 2004; Zampetakis, 2022). After Covid -19 with the rapid advancement of technology, in order to offer employees, the opportunity to improve work performance and organizational well-being, most organizations have had to redefine their Human Resource Development practices (HRD, Swanson & Holton, 2005). In line with numerous studies (Hill and Stewart, 2000; Harrison and Bazzi, 2017; Nizamidou and Vouzas, 2020) Human Resource Development (HRD) is a specific strategic area associated with the development of individual. Universities, from the HRD point of view, perform a dual function. The first function, universities are important levers in the creation of the human capital of the next generations and above all for the training of human resources. As a result, university students are heavily influenced by academic culture (routines, behaviors and values present in the university) and can shape their beliefs and behavior as future employees. Changing elements of academic culture can change their future job performance. Culture shock can have a negative impact on the health of university students.

From these premises, this study aims to investigate the phenomenon of culture shock that university students are experiencing upon returning to the university facilities, after the period of lockdown and distance learning. For this reason, the present study aims to cover this area of research which is currently not fully analyzed. In particular, the study wants to understand the phenomenon of culture shock that students have had and are experiencing upon returning to the classroom, in the theoretical perspective of HRD (Swanson and Holton, 2005). This study aims, through the measurement of the state of culture shock, to understand the impact that the return to university facilities and distance learning has had on the psycho-emotional health of university students.

We present the rest of this work as follows: after this (i) introduction, (ii) the main theoretical elements on culture, cultural shock and academic culture are discussed. Below, (iii) the methodological steps and the data collection process are illustrated. The study is based on the administration of the Culture Shock Questionnaire (CSQ; Mumford, 1998) to 341 university students from 5 different Italian universities. Finally, (iv) the main conclusions and suggestions for future research.

2. THEORETICAL FRAMEWORK

2.1 Culture and Cultural Shock

A consolidated literature on the phenomenon of culture shock exists in sociological, anthropological and economic studies. In recent decades, the phenomenon of culture shock is a topic that has fascinated scholars of organization and management studies (Pukthuanthong and Walker, 2007; Furnham, 2012; Taamneh, et al., 2018; Dorda and Shtembari, 2020). Despite this wide and varied literature, scholars agree that in order to understand the phenomenon of culture shock, it is first necessary to define the concept of culture. Defining the concept of "culture" is difficult (Spencer-Oatey and Franklin, 2012). The difficulty of defining the concept of culture is confirmed in the work of Kroeber and Kluckhohn (1952). In fact, Kroeber and Kluckhohn (1952), identify over 160 different definitions of the term culture. Then, Kluckhohn (1961) proposes a definition widely accepted by scholars. According to Kluckhohn (1961) the culture consists of a community's ways of thinking, feeling and reacting. Culture, therefore, consists of a set of behavioral habits and moral values that guide human behavior handed down from generation to generation (Kazi, 2009). According to Hofstede (1980), culture separates members of a social environment from others. Culture is dynamic, made up of people who share the same opinions, conscious practices, values and behaviors. Culture can be transferred through symbols and artefacts such as language, philosophy, food, social activities, music and the arts (Kazi, 2009). Through artifacts, the culture of a social entity (community, enterprise, etc.) becomes tangible. Thus, culture can be experienced and becomes a product of learning. This can generate the opinion that one's culture is correct since it is the only one or at least the first to be learned. (Hofstede 1980). The concept of culture is not a stable concept over time. People's experiences in life, or significant events, can affect culture. From this point of view, culture is dynamic and constantly evolving. Culture, therefore, becomes dynamic and constantly evolving because it is continually influenced by people's experiences, beliefs and norms. Some events can deeply affect people's behaviors and values, changing the culture of a community or social entity. People who, as a result of dramatic events, come into contact with new elements of their culture, can generate a sense of disorientation, fear and anger (Skierlo 2007). These feelings are associated with the phenomenon of "culture shock". The expression "culture shock" indicates the feeling of psychological disorientation that a person experiences from the loss of elements of reference in the social relationship (Kalvero Oberg, 1960 p. 178) and in their own culture. An interesting definition of culture shock is given by Adler (1975). According to Adler (1975, p.13), culture shock can be defined as a set of emotional reactions to the loss of reference artefacts and symbols from one's own culture and to the misunderstanding of new cultural stimuli. Culture shock can manifest itself with symptoms of anxiety, depression, sleep disturbances, fatigue, irritability, loneliness, forgetfulness, nostalgia, and

feelings of non-adaptation (Pedersen, 2004, p. 27). Culture shock, therefore, can be caused by the rapid change in the deep environmental conditions.

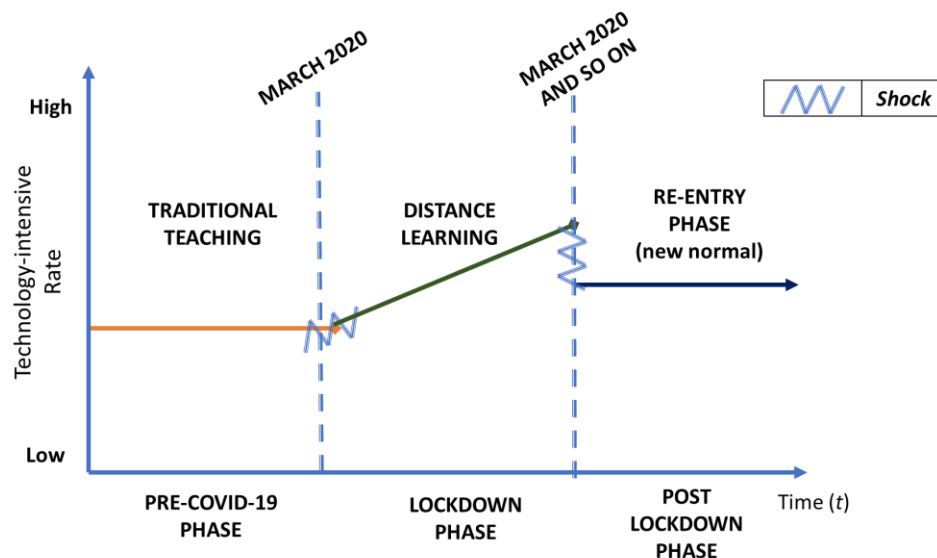
Culture shock causes a state of discomfort as the person who comes into contact with the new culture is unable to control or predict the behavior of other people (Naeem, et al., 2015). According to Peoples and Bailey (2009), culture shock can be defined as "the feeling of uncertainty and anxiety that an individual experiences when placed in a strange cultural context" (p. 431). In addition to this aspect, culture shock determines a difficulty in communication, hence the term "language shock" (Smalley, 1963). Guthrie (1975), replaces the term "culture shock" by using the term "cultural fatigue". Cultural fatigue is the attitude and the set of psychological efforts that a person demonstrates in adapting to a new cultural context. Culture shock, therefore, can manifest its negative effects on a person's social, work and behavioral life. From the HRD perspective, it is essential to understand the reactions of culture shock, on an individual level, as people may experience different effects that could reduce work performance (Winkelman, 1994; Furnham, 2019; Dorda and Shtembari, 2020; Ward, et al., 2020). Understanding a culture, and its distinctive elements, is essential for properly managing the people of a social community or organization (Hampden-Turner and Trompenaars 1997).

2.2 Academic culture and Covid-19

During the Covid-19 pandemic, people had to learn new routines and change their behavior. Maintaining social distance, the use of personal protective equipment (mask, gloves and hand sanitizer) are just some examples of new behaviors that people have had to adopt. As a result, the culture has undergone a profound change. Culture is something that unites the people of a community or organization. Members of a community or organization share values, behaviors and norms every day. Culture represents a standard for the behavior of individuals. Culture in universities has been recognized as an important research area (Weick, 1976; Becher, 1981; Clark, 1983; Bartell, 2003; Tierney and Lanford, 2018; Warter, 2019). Universities are complex social organizations with a distinct culture. The characteristics of academic culture are numerous and complex. The goals of the members belonging to this organization are heterogeneous with different expectations. First, university professors are experts with a high level of knowledge specialization. The term "adocracy" is used to describe organizations with personnel possessing specialized skills with a wide operational autonomy (Mintzberg, 1979). Academic culture is defined as "expertcracy" (Sporn, 1996), to emphasize the role of professors within the university. Furthermore, the academic culture is characterized by a hierarchical structure and formal regulations. In addition, within the university there is a decision-making process, often consisting of multiple phases and very long due to the involvement and different interests. Academic culture is based on the involvement and commitment of university students and professors. Students and university professors share common spaces, behaviors and

values for long periods. University students are the recipients of the knowledge transfer process, and have expectations about their training and preparation for the job. The Covid-19 pandemic has had a very important impact on the academic culture and behavior of university students. University students, during the Covid-19 pandemic, suffered physical and social restrictions during the lockdown. This brought about a new normal and a new culture.

Figure 1 -Evolution of teaching



Source: our elaboration

Figure 1 relates two dimensions: Technology-intensive rate (TI) and Time (t). Fig. 1., suggests the evolution of the Covid-19 pandemic situation, has determined three historical phases of teaching.

The first phase - Pre-Covid-19 Phase - represents the historical period before the proclamation of the world pandemic state. Academic culture was mainly based on a process of teaching delivery through face-to-face lessons and a transfer of knowledge through interaction between university professors and students in classroom. The environment of university is stable, with technology used prevalently as a support to teaching that requires physical presence.

The second phase - Lockdown Phase - is characterized by a rapid diffusion and implementation of the technology in the teaching delivery process and in the transfer of knowledge between professor and university students. The Covid-19 pandemic has imposed a drastic reduction in face-to-face contacts between professor and students. Communication is direct and fast through ICT platform..

The last phase - Re-Entry Phase - represents the phase of the “new normal”. At this stage, university students and professors re-enter universities, after the lockdown period, absorbing new routines and procedures. University students and professors are faced with a new academic culture. The rate of use of the technology is lower than in the lockdown phase. The university environment becomes more

dynamic and fragile (Alraja, et al., 2022), for this reason they have to adopt a new technology for both distance learning and physical education.

Technology is not only used as a teaching aid, but continues to represent a professor-student interaction tool. The study focuses the attention on “re-entry” phase, highlighting the impact on the psycho-emotional health of university students.

3. RESEARCH METHODS

To investigate the phenomenon of culture shock among university students and the impact on their health, we based this research on exploratory and inductive analysis. Through a methodological process divided into six phases, qualitative and quantitative data were collected.

The first phase - analysis of literature - was identified the Culture Shock Questionnaire (CSQ) developed by Mumford (1998) and composed of 12 questions divided into two parts: elements of "core" culture shock and elements of interpersonal stress. The Culture Shock Questionnaire (CSQ; Mumford, 1998) is a widely used and validated tool in the academic literature to investigate the phenomenon of culture shock. CSQ, is based on the six aspects of culture shock outlined by Taft (1977), reformulated in the form of questions.

In the second phase - pre-reading questionnaire - the questionnaire was analyzed to understand the consistency with the objective of the research and with the recipients. In this study, we used a modified version of the CSQ. In our version we have added a section to collect information on age, gender, degree course, university, duration and number of exams taken in the distance learning period.

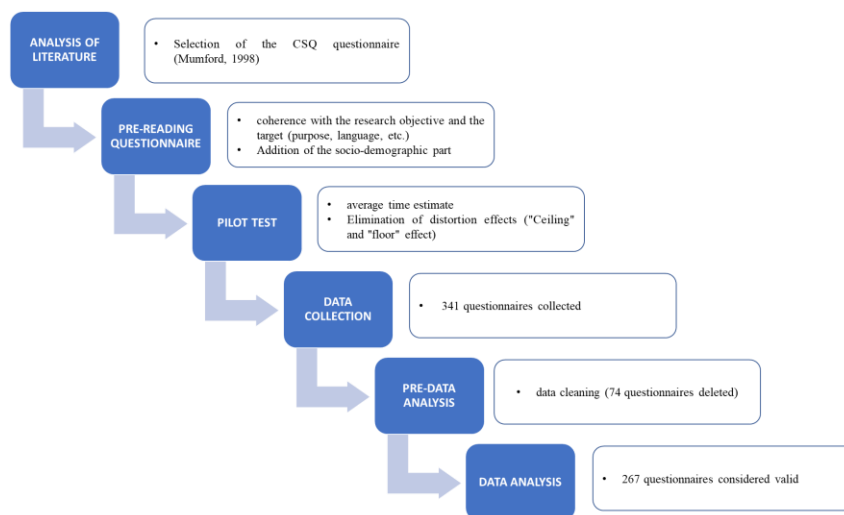
Subsequently - in the pilot test phase - we administered our modified version of the CSQ questionnaire to a sample of 20 university students. This pilot test made it possible to understand the average time for completing the questionnaire. In particular, the pilot test made it possible to reduce the main errors, namely: i) use of language and terms consistent with the target; ii) definition of the average compilation time; iii) unclear, ambiguous, confused or mistaken items have been eliminated and iv)) reduction of the “ceiling” effect and the “floor” effect.

In the fourth phase - data collection - the questionnaire was administered both through an online platform and in paper form. The questionnaire takes 15-20 minutes to complete. 341 questionnaires were collected from February to May 2022.

In the fifth phase - data pre-analysis - the data were analyzed to understand if they were complete and correctly filled in. About 20% of the questionnaires (74) were considered incorrectly completed.

Finally - data analysis - the data were processed, and the results were graphically reported.

Figure 2 – Methodological process



Source: our elaboration

3.1 Participants profile information

The personal information form was developed by the researchers. Items on "age", "gender", "degree course", "sized university", "distance learning months" and performance in the distance learning period were added. These items have been inserted to better contextualize the phenomenon. The questionnaires collected, administered both through the online platform and in paper form, were 341. At the end of the Pre-Data Analysis phase, 267 were considered correct and valid. The observed population was composed of Italian university students belonging to different universities and different degree courses. The first variable is the gender of the respondents. The observed population is composed of 267 university students, of which 122 are male (46%) and 145 are female (54%). It should be noted that in the questionnaire the gender field "Other/Prefer not to answer" was provided in which to bring together the different gender identities but no one has selected the choice.

The second observed variable is age of respondents. The Table 2, below show this information.

Table I. Age of the respondents

AGE	RANGE	19-26	53,00%
		27-32	35,00%
		33-40	12,00%
	INDICATORS	Mean	25
		Var	16
		Min	19
		Max	40

Source: our elaboration

To simplify the analysis of the collected data, the degree courses have been divided into three macro-categories, based on the prevalence of the nature of the courses. The table below show the main demographic information.

Table II. Main Demographic Information of degree course

		N	%
DEGREE	Management and Law	144	54,00%
	Humanities and Social Sciences	86	32,00%
	Healthcare and Medicine	37	14,00%

Source: our elaboration

Finally, the students were classified according to the size of the university and according to the months in Distance Learning (DL).

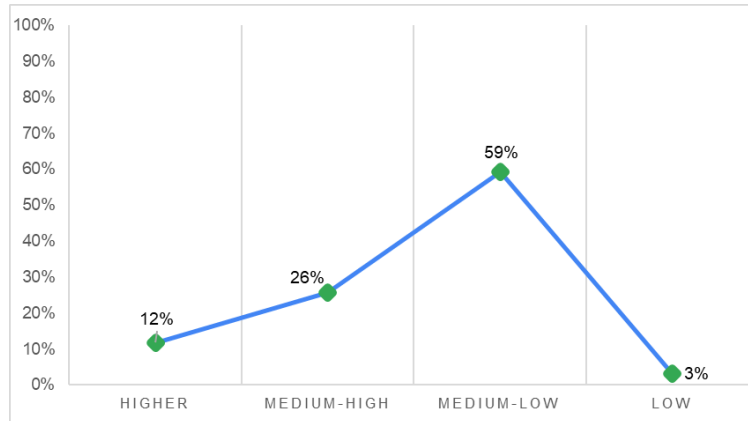
We created an Excel file to analyze all information in the questionnaires. In the data analysis, frequency distributions, percentage distribution, and means were calculated. Furthermore, the hypotheses on whether age, gender, the duration of the distance learning period (DL Months), the size of the universities (Sized University) and university performance (Performance) were tested. The Pearson correlation coefficient (Pearson's r) was used to test the research hypotheses.

4. FIRST RESULTS

During the Covid-19 pandemic and the lockdown period, traditional teaching activities were replaced with a remote teaching system. Now, university students are faced with a physical return to the university facilities. For this reason, students are faced with a new academic culture, which includes a combination of elements of the traditional system of classroom activities and online learning systems. For this reason, the first result of this study is aimed at understanding the level of culture shock that university students are experiencing, through the administration of the questionnaire. In this study, we used a modified version of the CSQ questionnaire (Mumford, 1998). The higher score indicates a high level of culture shock. Figure 3 shows the main results of the questionnaire. The results of the questionnaires show that university students are experiencing a culture shock upon physical return to university after the lockdown and distance learning (DL). From the data collected, through the administration of the questionnaire, it emerges that about 12% of the population observed has a "Higher" level of culture shock. The rest shows "medium-high" (26%), "medium-low" (59%) and finally "low" (3%) cultural shock level. The first consideration is that culture shock exists among university students. In fact, only a small percentage (3%) shows a low level. Instead, particular attention should be paid to "high" and "medium-high" levels of culture shock. The two categories comprise approximately 40% of the observed population. College students who exhibit these levels of culture shock are more likely to generate drastic negative emotional behaviors, such as fear, depression, and even dropout.

The university students interviewed demonstrate a state of malaise. Culture shock has a negative impact on the health of university students. In general terms, university students experience a feeling of general discomfort and pain.

Figure 3 – Distribution of Cultural shock



Source: our elaboration

Our research has not only set itself the goal of identifying the level of culture shock in university students. The research, in fact, has set itself the goal of understanding the main causes and factors that can influence the level of culture shock. In order to obtain more information on the phenomenon investigated and on the correct interpretation of the data, the answers obtained from each single questionnaire were processed and correlated to aspects such as: "Age", "Gender", "DL Months", "Sized University" And "Performance".

Table IV. Hypotheses test results

Hypothesis	Path	β Coefficient	Results
H1	Shock \rightarrow Age	+ 0,91	Support
H2	Shock \rightarrow Gender	+ 0,56	Support
H3	Shock \rightarrow DL months	+ 0,67	Support
H4	Shock \rightarrow Sized University	+0,70	Support
H5	Shock \rightarrow Performance	- 0,68	Reject

Source: our elaboration

Table 5 reports the relationship that exists between the levels of culture shock and the variables taken into consideration. In particular, we tested the hypothesis that the "Age" variable could influence the level of culture shock. From the data collected it emerges that the hypothesis can be accepted. The analysis of the data, in fact, shows that culture shock is influenced by the age of university students. University students aged 19-25 have lower levels of culture shock. The shock level is positively affected with increasing age. The second variable taken into consideration is "gender". Gender affects the level of shock. In general, males are the least affected by culture shock. Importantly, the "University of size" variable has a significant impact on culture shock. Students from large universities suffer the most from culture shock. The "DL Months" variable is poorly linked to the level of culture

shock. This variable represents the number of months the student has lived in distance learning. Finally, the hypothesis that academic performance affects the level of culture shock is rejected.

5. CONCLUSIONS

Universities have shown a good propensity to adapt in a dynamic and uncertain context such as during the Covid-19 pandemic. The process of reorganization and restructuring of teaching activities, after a long period of distance learning, requires students and university professors' new social skills to face life in a new university environment and academic culture. Differentiated entry and exit paths, space demarcations, use of the surgical mask during lessons, hybrid modalities and control of the green pass vaccination, represent some of the new routines of university life. The Figure 1, highlights the phases of the "new normal" that Covid-19 has imposed on academic culture. The results of this study highlight that university students are facing an active process of confronting the post-Covid-19 "new normal".

Upon physical return to the classroom, university students are experiencing difficult times that can generate emotional pain and learning difficulties. Culture shock is a process that is triggered to deal with change. The study shows that university students are suffering from a culture shock; in some cases, with very high levels. About 40% of the university students interviewed suffer from a "high" or "medium-higher" level of culture shock. The results highlight that university students suffer from psychological distress. To suffer the most are the students, from large universities who have spent long periods of DL.

From the theoretical HRD perspective, attention to the well-being of students in universities represents an important analytical perspective. Hence, universities must not only be considered as producers or intermediaries of new knowledge, but must deal with the personal growth of students. For this reason, universities are called upon to integrate and broaden their core teaching mission. Considering the teaching activity, not only as a moment of knowledge transfer, but starting to consider the well-being and personal growth of students. For this reason, university students should develop coping strategies to cope with culture shock. University must implement practices on human resources development (HRD), career development and organizational well-being for university students and professors. Measuring culture shock can be a good practice for assessing the health and well-being of university students.

From the perspective of the practical and managerial implications, the results of this study indicate that universities should start training courses, involving university professors and administrative staff, with the aim of transmitting the main strategies of coping and individual well-being, facilitating the building new social relationships.

Universities should be able to stimulate and cultivate the psychological well-being of university students. Between anxiety and depression, due to culture shock, university students continue their studies with difficulty sacrificing their health

The study is not without limits. The main limitation of this study is represented by the analysis sample (267 valid questionnaires). Although the questionnaires collected represent a sufficient number to test the various hypotheses, enlarging the survey sample can lead to a greater understanding of the phenomenon. Furthermore, the study focuses only on university students. Further studies should broaden the typology of interviewees to include professors and university administrative staff.

The results offer indications for future studies. Specifically, the results highlight that the Covid-19 pandemic has brought about a new culture and a new normal in the lives of university students. This must necessarily involve new reflections in the management of the life and well-being of university students.

The results of this study can offer insights to university managers. In fact, universities must not be seen as organizations that only deal with learning and education, but must be concerned with the growth and well-being of university students. Universities must take charge of the emotional experience of university students (such as the culture shock from Covid-19) and of how students interact with each other, creating bonds and relational capital. The results of this study present characteristics of innovation and originality. In particular, this study considers the culture shock that covid-19 has caused. On the other hand, many other investigators have focused attention on the culture shock that university students face during periods of study abroad. Future studies on the subject should be aimed at understanding whether university professors have also suffered culture shock or extend the sample of analysis.

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TOURISM EMPLOYMENT AND ECONOMICS GROWTH: DYNAMIC PANEL THRESHOLD ANALYSIS

Vukovic, Darko¹; Maiti, Moinak²; Petrovic, Marko³

¹International Laboratory for Finance and Financial Markets, Faculty of Economics, People's Friendship University of Russia (RUDN University), Russia and Geographical Institute "Jovan Cvijic" SASA, Serbia.

²HSE University, St. Petersburg School of Economics and Management, Department for Finance, Russia

³Geographical Institute "Jovan Cvijic" SASA, Serbia and South Ural State University, Institute of Sports, Tourism and Service, Russia

ABSTRACT

This study analyses the nexus between tourism employment on economic growth, for thirty OECD members. The study uses dynamic panel threshold regression model, where threshold variable is tourism employment, and the growth of gross national income and value added by activity services are dependent variables in corresponding models. The dataset covers 2008-2020 period. The study results show that both marginal effects indicate a positive implications of tourism employment on OECD sample economic growth. Nevertheless, the results indicate negative marginal effect of tourism employment on value added by activity services.

Keywords: tourism employment, economic growth, dynamic panel threshold, OECD.

INTRODUCTION

Numerous literature has proven, in the last twenty years, that threshold models have wide application (Caner and Hansen, 2004) in econometric modeling for non-dynamic panels with individual fixed effects (Hansen, 1999). However, Kremer et al. (2013) shed "new light" with introducing endogenous regressors with lags of the dependent variable in dynamic panel regression (to overawe the endogeneity problem). Few studies in the field of tourism using dynamic panel models have appeared recently for the first time. The reasons lie in the complexity of this model and the justification for its application in the field of tourism. The recent studies in tourism have shown that the greatest possibility of application of dynamic panel threshold model are in the analysis of the impact of specific tourism variables on macro (economy) issues. For example, Xu and Lv (2022) use dynamic panel threshold model to analyze the nexus between tourism and the informal economy in 117 countries. Chiu et al. (2021) confirmed that dynamic panel threshold model is appropriate for the testing of the nonlinear impact of globalization on inbound tourism, in the case of 53 countries. The studies have shown excellent performances of the dynamic panel regression model in their analyzes.

Another feature of the use of regression models in research in the field of tourism is found in the facts that: a) such studies mostly include a group of countries or regions, and b) analyze the impact of tourism indicator(s) on the development of the economy, regions, well-being, and other macro-factors. For example, the study of Brida et al. (2011) use dynamic panel model to test the long-run elasticities between economic growth (real GDP per capita) and tourism receipts for 27 Brazilian states. Lanza et al. (2003) test almost ideal demand econometric system model for analysis of the long run impact of specialization in tourism in 13 OECD economies. Rosentraub and Joo (2009) found that tourism industry contributes to the regional economic development through the sports and amusements, according to the test of a log-linear model in global 300 metropolitan areas. Çiftçioğlu and Sokhanvar (2021) use tri-variate VAR model to detect the nexus between specialization in tourism and sustainable economic development for 30 East Asian-Pacific tourism destinations. Demir et al. (2020) found that economic uncertainty has a significant (negative) influence on tourism investments, by using panel econometric model on the sample of 101 OECD and non-OECD countries.

Bearing in mind the above, this study aims to test performance of dynamic panel regression model in the analysis of the impact of the tourism indicator on economic development for the 30 OECD countries. The study chose tourism employment as the threshold variable, to analyze its impact on economic development through the gross national income and the value added by activity services. Although numerous studies prove that tourism employment contributes to economic development (like in transition period, the study of Szivas and Riley, 1999; a positive force for a country development, Liu and Wall, 2006; or through interaction on both income and environment issues, Lasisi et al., 2020), the novelty of this study is lies in the fact that this is the first study that analyze the influence of tourism employment on economic development using a dynamic panel regression model. The contributions are even greater given the rare literature in the field of dynamic panel regression testing in tourism and its upcoming popularization in tourism studies.

DATA AND METHOD

The sample

The sample data were extracted on 11th Feb. 2022 from OECD Statistics in period 2008-2020, for thirty OECD countries (OECD, 2022) representing population of 1,01 billion inhabitants (Fig.1). The present study analyzes the impact of tourism employment (threshold variable) on the growth of gross national income (model 1) and value added by activity services as percentage of value added (model 2), respectively. The model 1 assumes tourism GDP and the growth of value added by activity services as

percentage of value added, as independent variables. The model 2 assumes the growth of gross national income and tourism GDP, as independent variables.

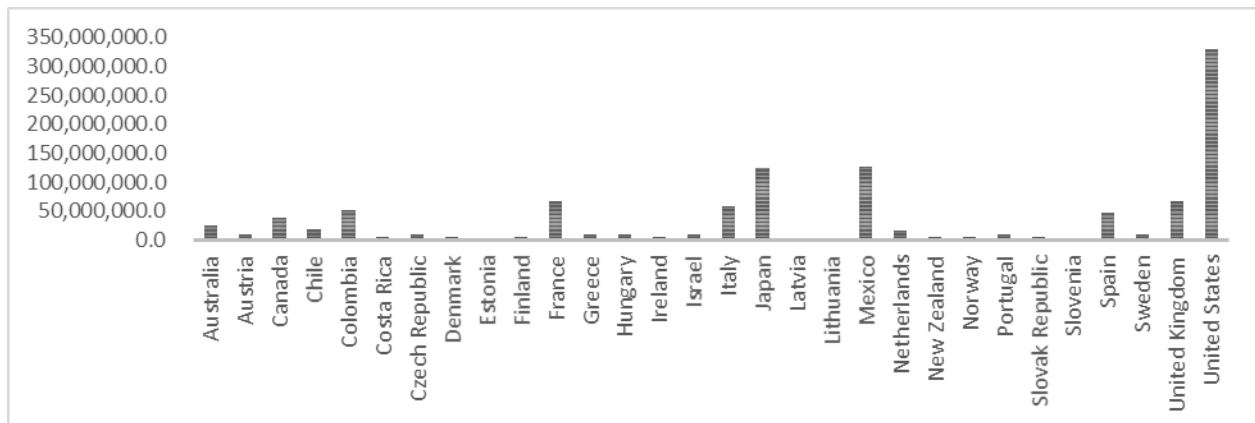


Fig. 1. OECD sample countries by the number of inhabitants. Source: Retrieved from OECD (2022) and adopted by authors.

The threshold variable for both the models is tourism employment. According to OECD Statistics (2022), the variables could be explained as follow:

- Tourism employment (toe). This indicator is calculated by the sum of personnel in tourism activities of the annual average of employees stated in national accounts.
- The gross national income (gni). This indicator reflects the growth of gross domestic product, increased by net receipts from abroad from employee reimbursements (residents who basically live inside the economic area but labor abroad or for residents who live and work abroad for short periods), property revenues (like dividends or interest) and net taxes less fundings on production.
- The value added by activity services as percentage of value added (vas). This indicator represents the growth of value added created by the services industries.
- Tourism GDP (togdp) represents contribution of all industries directly in contact with visitors to the total GDP of the country. This variable is calculated as a percentage of total GDP.

The models, program language, and environment are built in R program.

Method

This study applies two dynamic panel threshold regression models developed by Kremer et al. (2013), where generalized methods of moments type estimators are used to extend the Hansen (1999) original static panel threshold estimation, and the Caner and Hansen (2004) cross-sectional instrumental variable threshold model. The model considers endogenous regressors including lags of the dependent variable. Compared to classical Hansen's (1999) threshold autoregression model (including advantage

of drawing interpretations about the primary data generating procedure), in dynamic panel threshold regression the coefficients can take both a small and robust number of different values. These coefficients depend on the value of exogenous stationary variable (Seo & Shin, 2016). Dynamic panel threshold regression has relatively recently started to be used in the tourism issue, showing significant potential in research of nexus of tourism and factors of informal economy (Xu and Lv, 2022), globalization (Chiu et al., 2021), economic growth (Tang, 2021) and more. Having in mind previous research, we believe that the dynamic panel threshold regression model is suitable for analyzing the impact of tourism employment on macroeconomic indicators (like the growth of gross national income and the growth of value added) and to express the proportionate improvement in the tourism employment on the economic growth of aggregate countries under consideration.

To express these dependencies, we assume Hansen's (1999) threshold autoregression model for selected variables with log-transformed data for series harmonization, as:

$$\ln(gni)_{i,t} = \begin{cases} \alpha_i + \beta'_1 \chi_{it} + \varepsilon_{i,t} | \text{threshold variable} = \ln(toe), \text{ for } \chi_{it} = \ln(togdp)_{i,t} \\ \alpha_i + \beta'_2 \chi_{it} + \varepsilon_{i,t} | \text{threshold variable} = \ln(toe), \text{ for } \chi_{it} = \ln(vas)_{i,t} \end{cases}$$

(Model 1)

$$\ln(vas)_{i,t} = \begin{cases} \alpha_i + \beta'_1 \chi_{it} + \varepsilon_{i,t} | \text{threshold variable} = \ln(toe), \text{ for } \chi_{it} = \ln(gni)_{i,t} \\ \alpha_i + \beta'_2 \chi_{it} + \varepsilon_{i,t} | \text{threshold variable} = \ln(toe), \text{ for } \chi_{it} = \ln(togdp)_{i,t} \end{cases}$$

(Model 2)

with $\ln(toe)$ as the threshold variable used to split the estimate sample into regimes:

for $\ln(gni)_{i,t}$, $\ln(toe) \leq \gamma$ in 1st regime; for $\ln(gni)_{i,t}$, $\ln(toe) > \gamma$ in 2nd regime, and for $\ln(vas)_{i,t}$, $\ln(toe) \leq \gamma$ in 1st regime; $\ln(vas)_{i,t}$, $\ln(toe) > \gamma$ in 2nd regime.

By applying Kremer et al. (2013) dynamic function of panel threshold regression, the models for estimated variables are expressed as:

$$\ln(gni)_{i,t} = \alpha + \beta'_1 \ln(togdp)_{i,t} + \beta'_2 \ln(vas)_{i,t} + \varepsilon_{i,t} | \text{threshold variable} = \ln(toe) \quad (\text{Model 1})$$

$$\ln(vas)_{i,t} = \alpha + \beta'_1 \ln(gni)_{i,t} + \beta'_2 \ln(togdp)_{i,t} + \varepsilon_{i,t} | \text{threshold variable} = \ln(toe) \quad (\text{Model 2})$$

where indicators of function are $\ln(toe) \leq \gamma$ and $\ln(toe) > \gamma$, $\ln(gni)_{i,t}$ and $\ln(vas)_{i,t}$ are scalars stochastic dependent variables of corresponding models 1 and 2, $\ln(togdp)_{i,t}$ and $\ln(vas)_{i,t}$ are log-transformed scalars of threshold variables in model 1, $\ln(gni)_{i,t}$ and $\ln(togdp)_{i,t}$ are log-transformed

scalars of threshold variables in model 2, the regressor is χ_{it} is vector of time varying regressors, and $\varepsilon_{i,t}$ is regression error for $i = 1, \dots, n; t = 1, \dots, T$. The models include two dynamic threshold regimes: β'_1 and β'_2 . These regimes (coefficients β'_1 and β'_2) indicate the marginal effect threshold variables on the growth of gross national income (in Model 1) and the growth of value added by activity services, as % of value added growth (in Model 2). For both models, the low regime is represented by β'_1 —below the estimated threshold value and the high regime is represented by β'_2 —above the estimated threshold value. We assume, according to Hansen (1999), the regressor χ_{it} , $\ln(togdp)_{i,t}$, $\ln(vas)_{i,t}$, (threshold variables in model 1), $\ln(gni)_{i,t}$ and $\ln(togdp)_{i,t}$ (the threshold variables in model 2) are not time invariant, based on what we identify regimes β'_1 and β'_2 .

RESULTS

According to the study results, the estimated threshold value $\ln(toe)$ is found to be 7.51 at 95% confidence interval using the dynamic panel threshold in model 1. β'_1 denotes the marginal effect of $\ln(toe)$ on $\ln(gni)$ in the low tourism employment regime. β'_2 indicates the marginal effect of $\ln(toe)$ on $\ln(gni)$ in the high tourism employment regime. Table 1 shows dynamic panel threshold estimates for model 1.

Table 1: Dynamic panel threshold estimates for model 1.

Estimated Threshold Value	7.51
confidence interval (95 %)	[3.5 (lower limit), 7.691 (upper limit)]
gamma	1.067498 (0.331626)
Effect of tourism employment	
β'_1	0.146157* (0.071812)
β'_2	0.609775*** (0.144694)
Effect of Control Variables	
initial	0.0124841*** (0.0015292)
$\ln(togdp)$	3.594205*** (0.2292180)
$\ln(vas)$	-0.3513574 (0.2808766)
Number of Observations	
Regime 1: Threshold variable less than 7.51	219
Regime 2: Threshold variable greater than 7.51	95
Number of Countries	30

Notes: The calculation is made by authors. *Standard errors are shown in parentheses (). Similarly, * ** *** indicate significance at 10%, 5% and 1% levels, respectively.*

Both β'_1 (0.146157) and β'_2 (0.609775) regime dependent coefficients are statistically significant and have positive marginal effect in corresponding regimes. This means, that a percent rise in the tourism

employment of the average country will lead to an increase in gross national income by 0.15 % (in low regime) and 0.61 % (in high regime) respectively. Estimates show that the effect of development in tourism employment is larger under the high regime compared to the low regime. The threshold estimator diagram for model 1 is shown in figure 2.

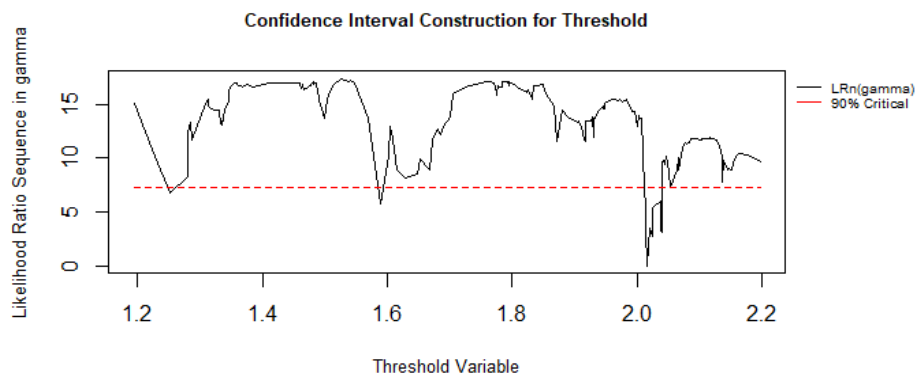


Figure 2. Threshold estimator diagram for model 1. *Note:* authors calculation.

Such results are in the line of Santana-Gallego et al. (2011), who previously confirmed the positive relationship between tourism and economic trade (whose growth leads to an increase in economic development) by applying dynamic heterogeneous panel data analysis for the member countries of OECD. This situation seems logical, the growth of employment in tourism is caused by higher tourist visits, which directly leads in gross national income (economic development). Also, the growing and developed economies (OECD members) are investing more in tourism infrastructure (and luxury part of tourism) which led to higher gross economic contribution. Similar findings are confirmed by Zuo and Huang (2018), where tourism specialization (as dynamical process) affecting economic growth; and with findings of Pulido-Fernández and Cárdenas-García (2021), confirming that the growth of tourism expands the level of economic development in the countries who strategically invest in tourism (like OECD countries).

The result from model 2 estimates that threshold value $\ln(toe)$ is found to be 6.56 at 95% confidence interval (Table 2). β'_1 denotes the marginal effect of $\ln(toe)$ on $\ln(vas)$ in the low tourism employment regime. β'_2 indicates the marginal effect of $\ln(toe)$ on $\ln(vas)$ in the high tourism employment regime. Both β'_1 (-0.073854) and β'_2 (-0.091098) regimes dependent coefficients are statistically significant and have negative marginal effect in their corresponding regimes.

Table 2: Dynamic panel threshold estimates for model 2.

Estimated Threshold Value	6.56
confidence interval (95 %)	[6.5 (lower limit), 6.784 (upper limit)]
gamma	-0.076200 (0.073401)
Effect of tourism employment	
β'_1	-0.073854** (0.024418)
β'_2	-0.091098*** (0.026529)
Effect of Control Variables	
initial	-0.0010360 (0.0013799)
ln(gni)	0.0185825 (0.0260663)
ln(togdp)	0.2270816* (0.1137920)
Number of Observations	
Regime 1: Threshold variable less than 59.591	175
Regime 2: Threshold variable greater than 59.591	139
Number of Countries	30

Notes: The calculation is made by authors. *Standard errors are shown in parentheses (). Similarly, * ** *** indicate significance at 10%, 5% and 1% levels, respectively.*

The results explain that a percent rise in the tourism employment of the average country will lead to a decrease in the value added by activity services, as % of value added by 0.07 % (low regime) and 0.09 % (high regime), respectively. Further analysis shows that the effect of development in tourism employment is larger under the high regime compared to the low regime. The threshold estimator diagram for model 2 is shown in figure 2.

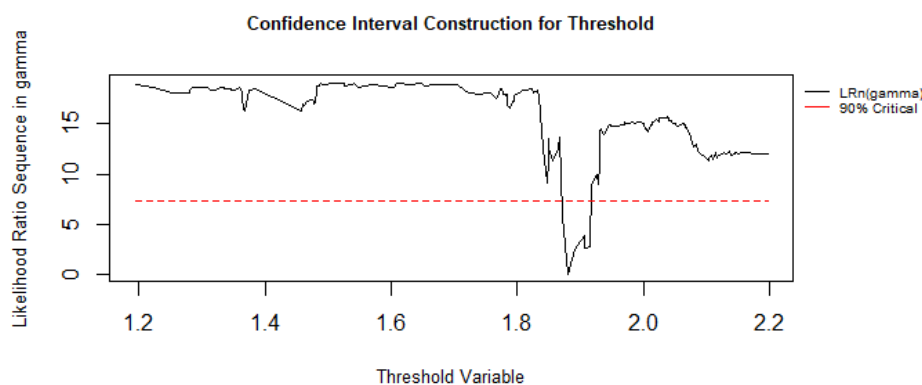


Figure 2. Threshold estimator diagram for model 1. *Note:* authors calculation.

The study explains this situation that tourism sector remains as one of lowest paid sector (in the term of salaries) in the industry. Similar results are obtained from Szivas and Riley (1999), who claim that tourism employment is the destination for a large portion of employees “refugee” (for them, tourism is 2nd choice in profession), compared to professionals in tourism who choose this industry as the 1st

choice. Second, the study results could be also explained by previous findings of Liu and Wall (2006). There is high probability that many of sample countries have case where tourism employment affects macro level of economy, but employees in tourism concern the quality at micro level. This inconsistency in policy and strategy can affect the results obtained. Lastly, the study findings of tourism employment nexus with by activity services support the theory of Smeral (2003), where tourism Industry have restricted potential for the economy productivity increases (absence of technological development). This statement is resulting in high demand for tourism employment and a negative impact on relative price increases.

Conclusion

The dynamic panel threshold model turned out to be a good econometric tool for testing the impact of tourism variable on economic development (growth). The analysis showed that the results of threshold regression, with both marginal effects indicate a logical implications of tourism employment on the gross national income and the value added by activity services. Greater investment in tourism employment contributes to economic growth (through higher gross national income and employment growth), while tourism remains one of the lowest paid industries (in salaries) in economy. Since that study's data includes OECD members countries, the future studies could investigate non-OECD members case, where decrease in the value added by activity services would be probably lower. It would be even more interesting to explore the contribution of tourism employment to non-OECD economic growth, having in mind the lower investments of these countries in the tourism infrastructure (compared to the OECD members).

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MOBILE APPS FOR SUSTAINABILITY IN GROCERY SHOPPING: INCREASING ACCEPTANCE THROUGH GAMIFICATION

Weyl, Ludwig¹; Schlegel, Dennis¹; Britzelmaier, Bernd²; Kraus, Patrick²

¹School of Informatics, Reutlingen University, Reutlingen, Germany

²Business School, Pforzheim University, Pforzheim, Germany

ABSTRACT

Sustainability has become an important topic in social sciences research as well as in the societal debate. Research in general indicates a high sensitivity of sustainability issues in broad parts of the society, however a change of consumption habits can hardly be overserved. It can be argued that technology, such as mobile apps, can play an important role to increase more sustainable behaviors and consumption habits, as they facilitate such behaviors, bring transparency to an unclear field and reduce complexity. Our research hence approaches an important research gap, especially as currently existing apps show a lack of functionalities and UX. By using a Design Science Research (DSR) approach applying Chou's Octalysis framework, we systematically analyzed eight apps in the field of sustainability and two general gamification apps as reference points complementing our findings with issues discussed in literature and could identify a broad range of functionalities. This comprehensive analysis allowed us to develop an initial mockup of a potential app, which then was tested within a user-group of ten users by using a semi-structured interview approach. Our findings contribute to knowledge by highlighting the importance of user experience on the acceptance of mobile apps, as well as, by showcasing how gamification can contribute to a sustained use of mobile apps in this specific context.

Keywords: Sustainability, Mobile Apps, Gamification, Consumer Behavior, Design Science Research (DSR), Octalysis Framework.

INTRODUCTION

In recent years, sustainability has become more and more important (Gills and Morgan, 2020, pp. 885–887; Jerneck et al., 2011, p. 71). Governments as well as international organizations have realized the danger of climate change for the whole planet, effectively changing the way people live in the decades to come (Moldan et al., 2012, p. 13). Food systems are “estimated to contribute between 19% and 29% of global greenhouse gas (GHG) emissions and to account for ~70% of global freshwater use” (Ridoutt et al. 2017, p. 933).

The individual consumer and his/her everyday decisions play an important role in this issue (Montiel et al., 2017, p. 5; Ridoutt et al., 2017, p. 933). In surveys, consumers often state that they value sustainability very much and try to act as exemplary as possible. So why do these statements not match with the overall documented behavior (Wells et al., 2011, pp. 808–810)? Especially in more complex products there are too many health, environmental and social factors that must be balanced against each other which are not easy to understand (Ridoutt et al., 2017, p. 941). When in doubt, consumers tend to find excuses for more convenience and try to argue that it is impossible to really say what option is objectively better for the environment (Diekmann and Preisendörfer, 1998, p. 96; Mu et al., 2019, p. 1).

For several years, there have been mobile apps with the goal of helping their users to become more environmentally sustainable. There have been many promising applications but only a few that have stayed successful for a longer period (Brauer et al., 2016, p. 14). Many apps can provide value but get uninstalled after a short while because they don't engage the user enough or motivate him/her to keep using their features (Law et al., 2011, p. 349). Several studies have indicated that gamification can be a key factor for success of any application (Kazhamiakin et al., 2015, p. 7; Koivisto, 2020, p. 10; Lister et al., 2014, p. 10; Olsen, 2019, p. 63; Stieglitz, 2015, p. 818). While there are already sustainability apps that have tried implementing gamification, they are still rare and often not mature, so the potential is yet to be exploited.

Hence, the major objective of this study was to investigate how the use of gamification in a smartphone app for sustainability in groceries can improve the user experience, especially the estimated long-term success.

In order to address this objective, we employ a Design Science Research (DSR) approach (Peppers et al. 2007; Hevner et al. 2004) to develop a concept for a mobile app. Within this methodology, we have conducted an analysis of existing sustainability apps for groceries, as well as, other apps that make use of gamification guided by the the Octalysis framework (Chou 2019). Using the collected features and insights from previous research, a mockup of a new app has been built which has subsequently been evaluated through interviews with 10 smartphone users and the feedback is used for final changes to the mockup.

LITERATURE REVIEW

Sustainability and Consumer Behaviour

As previously identified, food systems are a big contributor to climate change and some changes need to happen on a macro scale as well as on the consumer level (Capstick et al. 2014, p. 429; Ridoutt et al. 2017, p. 933). Too often, sustainability campaigns focus on users' direct emissions through transport or

heating while there are far bigger indirect emissions through clothes and food (Capstick et al. 2014, p. 431). Instead of the often promoted „turning off computer screens while at lunch, using a glass instead of a plastic cup, or printing double-sided“ (Capstick et al. 2014, p. 432), people should see the need to actually change their behavior in a more drastic way, but this is difficult to promote, especially since policy makers don't want to take personal freedoms away (Capstick et al. 2014, pp. 435–436).

Even though a large part of the population frequently states in surveys that they already try to act exemplary, there has always been a discrepancy between what people say and what they do in sensitive subjects like the environment (Diekmann and Preisendörfer 1998, p. 96). To explain this phenomenon, there are three major factors to be considered. First, there is the so called “attention-shifting strategy” where people follow society's norms and morals more when their behavior can be seen and neglect areas where nobody notices their actions (Diekmann and Preisendörfer 1998, p. 88). Second, the “low-cost hypothesis” states that people will only act in a morally superior way up until a point from which the cost or expenditure is too high (Diekmann and Preisendörfer 1998, p. 90). For example, a person will value recycling highly and talk about it a lot if he/she or she owns a car or lives close to a recycling yard but will find excuses for it once one of these conditions doesn't apply anymore. Third, the “subjective-rationality strategy” makes people belittle their individual influence because they don't want to change their behavior as long as other people don't have to change theirs (Diekmann and Preisendörfer 1998, pp. 92–93). This is also the reason why people with a high environmental consciousness are inclined to vote for stricter legislation on these matters - they are willing to change to a certain extent on their own but are against other people freeriding (Diekmann and Preisendörfer 1998, p. 98).

One thing stopping consumers from changing their behavior is having a self-enhancing or egoistic attitude opposed to a self-transcendent or altruistic attitude. Many of the environmental problems the world faces will only influence consumers in many countries in future generations and less so today, which makes many people not take these issues seriously (Dominicis et al. 2017, p. 1). If all the available information on these topics still doesn't convince somebody, another tactic is to show ways in which environmentally conscious behavior might benefit this person personally. For instance, a car offers comfort and personal freedom but getting rid of it might save money, improve personal fitness or even enhance a person's status (Dominicis et al. 2017, pp. 2-3). This strategy might work for some areas, but it could potentially do harm if the appeal to a person's wallet works for one, but overall it is more expensive to live environmentally conscious (Dominicis et al. 2017, p. 10).

Overall, consumers need to show at least basic interest in changing their behavior in order for the following strategies to work.

Mobile Applications

Mobile phones have replaced computers and television as first digital medium, accounting for “69% of all US digital media time” (Blair 2021). The biggest difference to a computer or even a laptop is the constant closeness to the device. The average smartphone user has a phone with him/her while driving, shopping or even during sport (Punchoojit and Hongwarittorn 2017, pp. 1–2). This even builds an emotional bond between user and device since a big part of life is spent on it and it fulfils many different roles (Al Nabhani and Wilson 2015, p. 1).

Typically, apps with sustainability focus have the goal to inform a user or even give practical advice for everyday situations. A successful example for an app like this is GoodGuide, which offers information on products and whether or not they are good for the environment, the workers involved and/or the consumers. For each of the 250.000 products in the database that can be searched by name or category or scanned via QR code, the app breaks down all its complex information into an understandable health, social and environmental score from 0 to 10. Equipped with this information, a consumer is able to make an informed decision and either support or even boycott certain products (Montiel et al. 2017, p. 5). This works even better if the information is linked closely to food practices on a daily basis and isn't too theoretical (Mu et al. 2019, p. 1).

In theory, apps like GoodGuide can act as powerful tools to help people with decisions as well as give a new perspective on environmental issues in general and build an interest in the topic (Antolin-Lopez et al. 2018, p. 3; Laasch et al. 2020, p. 253). In a study on app use in a university context, students showed an “increase in their commitment to social and environmental issues” (Alonso-Martínez et al. 2019, p. 779) after learning via app on top of traditional methods. More mobile apps and web 2.0 tools are demanded by several education scientists as a way to tackle issues like climate change and inequality (Montiel et al. 2020, p. 243). Generally speaking, modern information technology offers huge potential for influencing people's behavior (Brauer et al. 2016, p. 3).

A study on existing apps with environmental focus shows that there isn't a lack of apps, not even in apps with good ratings but they are simply used too rarely (Brauer et al. 2016, p. 12). Once users see the functionality of an app, they also often never open it again or uninstall it immediately because they lack the motivation to integrate it into their lives (Al Nabhani and Wilson 2015, p. 2). The common problem with these types of apps is that they simply inform but do not to help users in a practical way with changes in their behavior. On top of that, users tend to forget about apps if they do not use them regularly and aren't reminded of them (Fogg 2009, p. 6).

Gamification

A solution to the problems named above can be gamification. Video games can pull a player in, give feelings of joy, involvement, confidence and motivate him/her to keep playing for a long time by constantly giving him/her new goals to reach or utilizing other methods of motivation (Garris et al.

2002, p. 445). A reason for why games are played so much is because even mundane tasks can seem fun if they are part of a bigger journey. In role playing games - especially online games like World of Warcraft - players spend many hours killing the same type of monsters over and over just to level up or maybe get a rare new weapon (Chou 2019, p. 15). Pokémon Go was even seen as a workout app by some people because it brought so many people outside to catch monsters in an AR game (Allan 2016). „Gamification“ can be defined as the use of video game elements in a different context, usually with the goal of making a task more exciting and motivating (Chou 2019, p. 8). Another definition reads that gamification “applies game mechanics to non-game activities to change the user’s behavior of an application” (Law et al. 2011, p. 349). It consists of a set of elements like scoreboards, badges, virtual goods, progress bars and levels (Stieglitz 2015, p. 817).

For complex areas where people lose interest or motivation quickly, a gamification approach can offer an effective solution, for example in a school or university context. If you take a larger problem and divide it into smaller items, you can set elements like a progress bar and some levels and have students see the topic in an achievable way (Montiel et al. 2020, p. 249). In an educational context, gamification is often used to show students their current knowledge, the progress they have made and a goal at the horizon, offering something completely different from a thick textbook (Stieglitz 2015, p. 823). Studies have shown potential for gamification in an academic context and tools like Kahoot are already widely used to make learning more fun for students (Garris et al. 2002, p. 445; Ramdania et al. 2021, p. 462; Reiners and Wood 2015, p. 23). On top of that, gamification also showed potential for motivation increase in a workplace context (Sanchez-Gordón et al. 2016, p. 240).

To analyze existing apps and help structure a new one, the Octalysis framework by Yu-Kai Chou is used. This framework is the most common and a widely used tool for gamification in general to increase user engagement and motivation (Sanchez-Gordón et al. 2016, p. 236). The Octalysis framework consists of the following eight core drives:

1. Epic meaning and calling
2. Development and accomplishment
3. Empowerment of creativity and feedback
4. Ownership and possession
5. Social influence and relatedness
6. Scarcity and impatience
7. Unpredictability and curiosity
8. Loss and avoidance

METHODOLOGY AND RESEARCH DESIGN

The approach used in this research is Design Science Research (DSR) since the goal is to create a new artifact through iterative action (Peppers et al. 2007, p. 46), in the form of a concept for a mobile app. DSR typically follows 6 steps (Peppers et al. 2007, p. 54), which were adapted for this research as shown in Figure 1.

Identify problem and motivate	Define objectives of a solution	Design and development	Demonstration	Evaluation	Communication
Lack of long-term success for sustainability apps	Combine best gamification features from existing apps and literature with own ideas for new app with focus on sustainability	List of features for new app	Mockup for a gamification app with focus on sustainability in groceries	Semi-structured interviews with 10 young smartphone users	Research paper

Figure 1 Adapted DSR steps for this project

The justification for this artifact lies in the urgent climate crisis in which individual consumers have a high influence. Since gamification is proven to have a large potential but is not successfully used for sustainability yet, there is a need for research in this area (Jerneck et al. 2011, pp. 69–70; Sailer et al. 2013, p. 36). The objective is assembling a catalog of features for a potential gamification app with a focus on groceries that can lead to projected longer use and integration in the users' lives. This is difficult to measure, hence the semi-structured interviews will show the potential users' assessment of it (Hevner et al. 2004, p. 85).

The overall focus of this research lies on step 3 of DSR, the analysis of existing apps and literature to find the most promising features that are then combined into a catalog with own thoughts as the artifact. The following existing apps from the area of sustainability that already use gamification features have been analyzed in detail: (1) Joule Bug, (2) Sustainability@BU, (3) Go Green Challenge, (4) Eco Challenge (AKA Umwelt-Herausforderung), (5) susgain, (6) Change it, (7) Go Green, and, (8) Eevie. Additionally, two non-sustainability gamifications apps were analyzed: (9) Duolingo and (10) Strava. With these features, a mockup for a new app is created in step 4 using the software 'Invision' to demonstrate a possible UX. For the step 'Evaluation' of the DSR framework, usability testing is done through semi-structured interviews with 10 smartphone users. In this case, the most common feedback was distilled in a table of adaptations and implemented into the mockup to get the final artifact.

RESULTS

Design and Development

Having analyzed the existing apps, a wide catalog of features is available to create a new application. In theory, one could take all these features and put them together, but the goal of this research was to create a mockup of an app that combines the existing parts into a potentially successful new product, following the Octalysis framework. In the tables, the first branch shows what was to be put in the app as a feature or what was rejected. The middle branch has the source of the feature, usually one of the 10 analyzed gamification apps, in the order as mentioned in the previous section, as well as, literature references.

Core Drive 1: Epic Meaning and Calling		
Feature	Source	Adaptions/Reasons
basic idea of sustainability	1-8	-
comparison of environmental impact with different behavior	8	overall comparison of possible different diets, not in detail for challenges or profile
convince friends to join and see each other's progress	10	-
self-assessment (beginner, interested, active)	4	3 instead of 5 levels with no influence on challenges but just for recommendations and feeling of personalization

Table 1. *Assembled features core drive 1*

Core Drive 2: Development and Accomplishment		
Feature	Source	Adaptions/Reasons
only log bigger actions - login needed max. once a day	1 + (Chou 2019)	too much activity in a day demotivating
see only people directly above and below on leaderboard	10 + (Chou 2019)	for casual users too much competition demotivating, focus on community and fight together for good cause
additional leaderboard just for friends	10	-
Challenges with progress bars	8	-
Clear goals	8	-
Track progress over total time	8	Not many metrics, just progress of points and streaks, garden and badges
No maximum level, never finished	8	-
Constantly new challenges	10	-
never lose points	(Lee et al.	too negative and maybe demotivating

	2013)	
No special challenges for higher levels	7	new items enough because higher difficulty always possible and users on different levels from beginning
New challenges constantly without quick repetition, experience is never finished	3	Quick loss of interest once tasks repeat themselves
Self-assessment at the start	6	-
Progress bar for level ups	1	-
Get bonus for badges or level ups	9	-
More items in store for higher level	9	-

Table 2. *Assembled features core drive 2*

Core Drive 3: Empowerment of Creativity and Feedback		
Feature	Source	Adaptions/Reasons
Create challenges	1	-
No skill tree	9	too narrow for food
No clear path, can choose challenges	4	Choose challenges for each week without restrictions
No sharing of pictures or recipes	1	too much for this app, rather for social media like Facebook
Challenges with different difficulties ("Eat vegan for 3/4/5 days")	10	-
tips to help with own behavior	8	-
build garden	(Olsen 2019)	Purchase plants and items with in-game currency and unlock new ones with higher levels
More items in store for higher level	9	-

Table 3. *Assembled features core drive 3*

Core Drive 4: Ownership and Possession		
Feature	Source	Adaptions/Reasons
Self-assessment at the start	4	-
No groups	1	friends enough social factor, not enough variety in possible groups
Start with few items and build from there	(Olsen 2019)	Own garden with few plants at the start
Game idea	(Olsen 2019)	Garden
No wagers with in-game currency	9	impossible to ensure fairness because users can

		just lie
Real world wins for supermarkets	5	From fixed discounts/cashback in Eevie to prizes for challenges in HabitBite
No special challenges for higher levels	7	new items enough because higher difficulty always possible and users on different levels from beginning
In-Game Currency for garden	9	Instead of new clothes for avatar growing garden to show progress
In-Game Currency without real world value	5	need strong partner, maybe discounts later after first success
Levels and points	5	-

Table 4. *Assembled features core drive 4*

Core Drive 5: Social Influence and Relatedness		
Feature	Source	Adaptions/Reasons
Create challenges for friends	1	-
Leaderboards against world and friends	10	-
Like and comment	1	-
No groups	1	friends enough social factor, not enough variety in possible groups
No sharing of pictures or recipes	1	too much for this app, rather for social media like Facebook
Badges	10	-
Look at friends' progress	9	visit other gardens
No sharing of own progress	10	not enough shareable content, gets shown automatically in friends' feeds
Feed with environment info, tips, friends' activities	4	Different content in feed
invite friends to app	1	-
show emissions of other people at the start and do self-assessment	6	Self-assessment at the start only for feeling of personalized experience and challenge suggestions

Table 5. *Assembled features core drive 5*

Core Drive 6: Scarcity and Impatience		
Feature	Source	Adaptions/Reasons
Bigger challenges/badges with actual difficulty while still achievable	10	Easy stuff as well but enough content to keep "stronger" users entertained
Difficult badges or high levels to brag	10	-

Items for garden	7	Garden instead of avatar
No sharing of own progress	10	not enough shareable content, gets shown automatically in friends' feeds
Push as reminder of challenges	9	-

Table 6. *Assembled features core drive 6*

Core Drive 7: Unpredictability and Curiosity		
Feature	Source	Adaptions/Reasons
Seasonal recipe ideas	Own idea	-
Weekly new challenges or create own for friends and invite them	1	-
Push when friend surpasses user	9	-
Push as reminder of challenges	9	-
Recommend stores via GPS	5	-
No special challenges for higher levels	7	new items enough because higher difficulty always possible and users on different levels from beginning
Double EXP periods	9	double exp periods for certain milestones but also as surprises, e.g. at Earth Day
Feed with environment info, tips, friends' activities	4	Different content for feed

Table 7. *Assembled features core drive 7*

Core Drive 8: Loss and Avoidance		
Feature	Source	Adaptions/Reasons
Streaks	9	-
No special challenges for higher levels	7	new items enough because higher difficulty always possible and users on different levels from beginning
No groups	1	friends enough social factor, not enough variety in possible groups
No wagers with in-game currency	9	impossible to ensure fairness because users can just lie
No streak freeze	9	useless since no actual game and only whole weeks, no days
Push when friend surpasses you	9	-
Basic idea of sustainability	1-8	-
Real world wins for supermarkets	5	From fixed discounts/cashback in Eevie to prizes

		for challenges in HabitBite
Points, levels and leaderboard	4	-

Table 8. *Assembled features core drive 8**Evaluation*

The following table shows the changes that were made based on the user feedback gathered by means of the 10 semi-structured interviews.

User comment	Final version
Challenges too easy	Change of one challenge, explanation in comment that there are challenges of different levels available
More complex challenges	Comment that not only weekly but also monthly challenges are available
Missing info on how exactly actions/challenges help	Two example diagrams and comment that those are shown after starting corresponding challenges
Not enough data and tips	Example tip page and comment that those pop up frequently and can be called up manually
Real prizes probably rare	Smaller prizes but for more people
More focus on local activity	Leaderboard X km radius to have community around user
Focus too much on veg(etari)anism	Change of one example challenge
Cooperation with/referral to other services	Site with links to other projects like TooGoodToGo or leftover recipes
Need option to deactivate features	Option in main menu
Option to invite friends too early	Sharing info now later in experience
Season calendar	Monthly push with seasonal produce and recipe links

Table 9. *Changes of final version*

These changes were made either because several users had issues with something and fewer people liked it or simply because it seemed like a logical idea from a usability perspective of an app that had not been thought of before.

CONCLUSIONS*Summary of Results*

Sustainability has become an important topic in social sciences research but perhaps even more in the general societal debate, as climate change, the loss of biodiversity and many other concerning developments put the livelihood of the human species at danger. While to a certain extent the political

discourse and decision-making process seem to be unable and unwilling to tackle these fundamental challenges, it is up to every individual to reduce his/her ecological impact to a minimum. While research in general indicates a high sensitivity of sustainability issues in broad parts of the society, a change of consumption habits can hardly be overserved, so there seems to be a severe implementation hurdle. It can be argued that technology, may play an important role to increase more sustainable behaviors and consumption habits, as they facilitate such behaviors, bring transparency to an unclear field and reduce complexity. Given the impact of the food sector on greenhouse gas emissions and the immense decision possibilities consumers have, our research approaches an important research gap, especially as currently existing apps show a lack of functionalities and UX. By using a DSR approach applying Chou's Octalysis framework, which has been frequently used in the analysis of apps, we systematically analyzed eight apps in the field of sustainability and two general gamification apps as reference points complementing our findings with issues discussed in literature. This comprehensive analysis allowed us to develop an initial static mockup, which then was tested within a user-group of ten users by using a semi-structured interview approach. The feedback provided a valuable basis for the refinement of the mockup. As this research is work in progress further steps would now be to develop an interactive app, which could be used for more comprehensive usability tests.

Contribution and Implications

Our research contributes to knowledge by highlighting the importance of user experience on the acceptance of mobile apps, as well as, by showcasing how gamification can contribute to a sustained use of mobile apps by motivating individuals in the specific context of sustainability in grocery shopping.

Our results have a number of important implications for both business and society. First of all, practitioners engaging in the development of mobile apps can use the findings of our research in the development of their apps to enhance the probability of success and actual use by consumers. Second, consumers should use our article as an opportunity to increase their awareness of the environmental footprint of their food consumption.

Limitations

As with every research activity, also this research faces limitations. While ensuring reflexivity throughout the research process, such as by means of critical discussions within the research team, the identification of functionalities as well as the feedback provided by the interviewees might suffer under a certain degree of subjectivity. Moreover, the test group of ten participants seemed to be a quite homogeneous group showing some affinity towards technology, digital tools and apps. Nevertheless, our research offers a comprehensive list of functionalities of a potential mobile app for a

more sustainable grocery shopping and hence provides an important contribution to knowledge and the practitioner-oriented discourse in this field, especially as a well-established research approach (DSR) was applied.

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DIGITAL REFORMS IN PANDEMIC TIMES- COMPARATIVE ANALYSIS OF THE GREEK EXPERIENCE

Xanthopoulou, Panagiota

Department of Management Science and Technology, University of Western Macedonia, Kozani, Greece

ABSTRACT

The present study aims to investigate the key determinants of digital transformation of the Greek public administration especially during the period of the current pandemic, which caused many changes in the ways that organizations operate and offer their services to citizens. The researcher used a mixed research method both quantitative and qualitative. A total of 251 questionnaires were answered by middle managers of the Greek public sector and data analysis was performed using the SPSS statistical tool. Supplementary, a qualitative research was also conducted through 30 structured interviews with public servants, regarding the digital transformation and the internal factors (such as organisational culture, leadership etc.) that hinder its successful integration during the current pandemic. The results showed that factors such as employees' training, organizational strategy and leadership, in addition to the lack of a digital culture of the whole country, had great impact on the adoption and the successful integration of digital governance in the Greek public sector. Another crucial finding is that public servants consider the current pandemic as an opportunity and not as a threat for radical changes and improvements in the provision of their services and in the creation of public value.

Keywords: Digitalization, Digital Transformation, Public Sector, Pandemic Crisis.

INTRODUCTION

Implementing organizational changes seems a difficult process as many reforms in the Greek public administration continue to show high failure rates, mainly due to the poor preparation of the administrative mechanism and the previous problems in the planning and provision of public services (Lapiente & Van de Walle, 2020; Spanou 2018, 2021). Digital transformation as a vital part of the public sector's reforms brings new ways of working and new forms of relationships (European Commission, 2019). However, there is little empirical evidence on how public administration currently implements digital transformation in their day-to-day practices and on the factors that mainly impact the effective integration of digital transformation within the organizations (Eggers & Bellman, 2015). Furthermore, public employees need a working environment characterized by motivation, empowerment, and

continuous improvement of their digital skills and with a common vision around digital transformation. Thus, it is important for leadership to promote a digital culture, as leadership has a direct impact on digital maturity (Danailova, 2014; Xanthopoulou & Karampelas, 2020). Civil servants serve public interest through their performance and quality of services, so it is very important that they are motivated and willing to develop their digital skills. Many public organizations have already begun their digitalization and some of them have successfully met their problems (Cinar et al., 2019; Febiri & Hub, 2021). Although metrics and indicators for measuring digital progress are now at the heart of these reforms, they are mainly focusing on numerical indicators, without measuring the quality of the digitalized public sector, and the internal factors that affect the creation and acceptance of a digital culture. From these, it is obvious that digital reform of the public sector requires support from leadership, and motivation for public employees who feel the anxiety of losing their jobs, due to the presence of new technologies (Erebak & Turgut, 2021). Digital technologies alone provide little value to an organization (Kane et al., 2015). The success of digital governance systems also depends significantly on how citizens perceive the value achieved by using these new digitalized services especially during the current pandemic where they had the ability to use a variety of them (Scott et al., 2016; Holzer & Manoharan, 2009; Malodia et al., 2021). However, despite the need for a successful digital transformation in the public sector, we still know relatively little about whether and how the adoption of digital technologies is associated with real reforms of the entire public sector organizations (Xanthopoulou & Plimakis, 2021). Therefore, there is a need for a further focus on the factors and characteristics of a successful reform program in the public sector. It is also observed that the majority of the empirical research regarding the digital transformation of the public administration was mainly qualitative using case studies, which cannot lead to the generalization of results, thus it would be useful to conduct quantitative research methods for more generalizable results and conclusions. Consequently, there is also a significant lack of mixed research methods especially from the employees' point of view. The originality and contribution of the current research lies in two points. Firstly, it used a mixed research method both qualitative and quantitative and secondly, it focuses on how public administration currently introduces digital transformation in their day-to-day practices, when the majority of research focuses on technological issues when referring to the digital transformation of public sector.

From the above, we can conclude to the following research questions:

- RQ1: Which factors impact the digital transformation of Greek public administration during the current pandemic?
- RQ2: How did Covid-19 affect the digital transformation of public administration in OECD countries?

- RQ3: What are the considerations of public servants concerning the success of digital transformation in the Greek public sector?

LITERATURE REVIEW

Digitalization as a reform: what determines its success?

Digital transformation becomes more pressing than ever, especially under the conditions of the current pandemic in the majority of sectors such as education, health, and in government services which become more dependent on digital technologies nowadays (Soto-Acosta, 2020). The use of technology in the public sector requires organizational changes and the realization that productivity, quality and effectiveness presuppose fundamental exploitation of opportunities through a transition to a fully digital environment (Milakovich, 2021). The transformation of leadership since the development of interpersonal, entrepreneurial and management skills are main characteristics of successful reforms (Lewis, 2017; Morakanyane et al., 2017). A variety of studies have attempted to analyze the factors that inhibit digital transformation from many perspectives. Some of them focus on the internal organizational environment, others on stakeholders and those involved in digitalization projects and others on external factors (such as political, legal and economic), while many of them follow a combined way of thinking. The findings of Effah & Nuhu (2017) for example, revealed that outdated laws and organizational culture focused on rules are significant institutional barriers to digitalization. Other barriers are related to the equipment and mainly to the insufficient and unreliable internet access for all participating organizations. Despite the benefits of digitalization, its development in the public administration still remains a challenge (Falk et al., 2017; Crîșmariu & Șomîtcă, 2022). The organizational culture and structure can also be barriers to digital innovation especially in the public sector (Lokuge et al., 2019). For example, controlling and strict organizational cultures stifle novel thinking and creativity and limit innovation stimuli perception (Bilal et al., 2018). This happens because the strict adherence to the prevailing norms can generate individual views and ideas strikingly similar, since both the information perception and the interpretation processes have been influenced in a specific direction. Other issues arising included the resistance to innovation and the risk-averse culture (Cinar, et al., 2019; Wipulanusat et al., 2019). The lack of exchanging information and knowledge management within departments and organizations also poses challenges to digitalization (Ruiz-Alba et al., 2019). Resistance by public employees for fear of job loss also limits digitalization in the public sector (Falk et al., 2017; Basyal & Wan, 2020). Literature often distinguishes barriers between internal and external ones, which are subdivided (Lorentz et al., 2021). Specifically, internal barriers include challenges related to resource management systems, time management, organizational culture and leadership as well as challenges related to the human factor. External barriers refer to supply and

demand and to external environment factors. In addition, there are numerous empirical studies concerning the barriers in the adoption of e-government, referring to the lack of trust and confidence (Gilbert et al., 2004; Vooglaid & Randma-Liiv, 2022; Mishra et al., 2021; Cahlikova, 2021), to general concerns about public safety, privacy and data protection (Freire & Casarin, 2021; AlAbdali et al., 2021), to the quality of information (Gilbert et al., 2004; Zeebaree et al., 2021; Sherzod, 2022), to the lack of a supportive leadership and management within the organization (Al-Tkhayneh et al., 2019; Hai et al., 2021), and to other organizational issues. Other studies, for example the meta-analysis of Savoldelli et al. (2014) identified three groups of barriers to the adoption of e-government such as technological and economic, managerial and organizational, and institutional and political.

Covid19 and Digital Transformation of public sector

There is no doubt that the COVID-19 crisis has accelerated the digital transition in a variety of areas. Today 58% of European Union citizens choose to contact the public administration via the internet and the total internet availability of public services is estimated to be 82%. Digital transformation has emerged as a condition in the last decade, with the aim of redesigning public and private sector services in order to improve the daily work of employees and civil servants, and to effectively meet citizens' needs for quality and transparency in services (Karamalis & Vasilopoulos, 2020). However, the COVID-19 pandemic crisis has caused many problems in public sector organizations worldwide. Greece had to take significant and rapid steps towards the digitalization both to protect citizens from the pandemic consequences and to provide services more efficiently and in a timely manner. Although there are many studies that discuss the potential in the private sector only a few studies examine the dynamics and innovation in the public sector (Teece, 2017; Helfat & Martin, 2015; Xanthopoulou & Kefis, 2019). The OECD in the 2021 edition of the Digital Economy and Society in its latest report states that Greece ranks 25th of 27 EU Member States. The country continues to improve its performance in almost all DESI dimensions, although in most cases it still scores below the EU average. Greece has demonstrated a great commitment to digitalizing its government services. The most difficult problem is to simplify processes and reduce administrative burdens on people, businesses, and government agencies. The rapid adoption of digital services, on the other hand, is projected to boost competitiveness, productivity, investment, and citizen participation (Kovacs & Bittner, 2022).

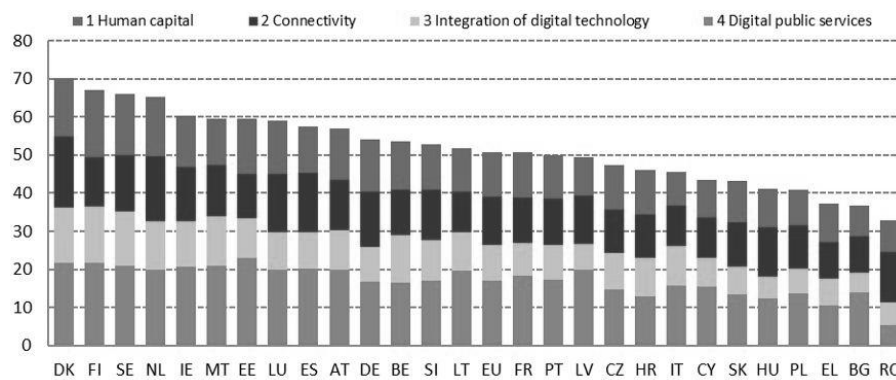


Figure 1. Digital public services (DESI Score 2021)

Prior to the current pandemic, governments have been increasingly focusing on how to solve issues such as climate change, demographic changes, and on the promotion of health and wellbeing (Mazzucato & Quaggiotto, 2020). Behind these challenges there are difficulties of creating sustainable and inclusive growth. COVID-19 is a huge challenge for governments' ability to manage societies in a period of crisis (Gaspar et al., 2020). Covid-19 has seriously affected many countries due to the different levels of preparation and due to the ability of the public sector to manage the economic activity. Countries like the United States and the United Kingdom, in particular, have recognized how fragile their production and public health systems are, as well as how difficult it is to increase production and to coordinate supply chains for food, medicine, respirators, and protective equipment. The pandemic in these countries has exposed the damage of these administrative reforms in the public sector's resilience of socio-economic systems (Chazan, 2020; Bouckaert et al., 2020). There are also success cases in emerging markets. For instance, in India, Kerala's successful response to the crisis is also the result of long-term health investments and of a successful public-private partnership model (Mazzucato & Quaggiotto, 2020). The government of Vietnam had also timely recognized the complexity of the problem, so it decided to close its borders early, and rapidly pushed for the development of low-cost test kits (Klingler-Vidra et al., 2020). Countries in Eastern Europe quickly imitated successful crisis management practices from Southeast Asia with closing their borders and making face masks mandatory for the public (Shotton & Jones, 2020). From these examples it is clear that during pandemic crises governments must respond to these emergencies by planning and implementing rapid actions and mobilizing their resources. Moreover, it becomes obvious that effective governance requires skills and abilities for both flexibility and resilience (Drechsler & Kattel, 2020; Wu et al., 2018).

However, while responses to COVID-19 have pointed the significance of public sector's capacity and capabilities, the last half century has been marked by declining governments' ability to adapt and learn (Mazzucato & Kattel, 2020). Additionally, public organizations are frequently reformed, particularly in the healthcare sector, because it is a large and cost-cutting sector. However, there is no evidence that

such reforms led to improved outcomes (Simonet, 2011). Instead, they promoted a view of public services that focus on the ease and efficiency of service delivery rather than meeting essential needs of the community or developing and improving the skills of public employees (Cottam, 2018). Another issue arising from the pandemic is the need for an effective management of data and digital platforms. It is important for the public sector to adopt a decision-making system based on specific objectives and both qualitative and quantitative data with the help of new technologies, in order to improve the quality of processes and services offered. New Public Management reforms forced many governments to outsource their functions, which had a detrimental effect on their digital capabilities. In order to rebuild the capacity of the public administration after the COVID-19 period, the public sector must be considered from a new perspective. It becomes more necessary than ever to invest in long-term skills and competencies in order to ensure better results in flexibility and responsiveness during crises.

In terms of technological innovation, Greek public sector falls behind that of other European countries (Garcia, 2022). However, in recent years and especially in recent months, Greece has taken important measures to modernize its activities and protect citizens and workers from the pandemic (Casquilho-Martins & Belchior-Rocha, 2022). The Ministry of Digital Government of Greece brings together the IT and telecommunications infrastructure to providing digital services to residents and companies. Its strategic goal is to create the necessary framework for Greek citizens and businesses to truly benefit from the European Union's single digital market, including the ability to design and use efficient digital services in a variety of sectors such as public administration, justice, health, energy, entrepreneurship and transportation (Georgios & Nikolaos, 2021). The development and promotion of digital services and online systems from the Greek public administration during the pandemic allowed citizens to have access in various public authorities without physical presence while it also helped civil servants to work and interact with their peers remotely. Many Ministries have developed new systems in response to the pandemic. For example, 112 is a comprehensive emergency service, was launched by the General Secretariat for Civil Protection. This service includes both incoming and outgoing data, allowing citizens not only to make an emergency call from Greece or anywhere in the European Union, but also to receive text messages, emails or voice messages. One of the most important measures, which are considered real progress in the digitalization of the Greek public sector in Greece, is the "gov.gr" platform, which was introduced on March 20, 2020. This platform is the new integrated digital portal of public administration, where citizens and businesses can access digital services of interest easily and quickly. The Ministry of Civil Protection and the Ministry of Digital Government have developed a five-digit number in order for citizens to inform the authorities about their movements, as well as cell broadcast messages sent to all smartphones in Greece with general instructions about the pandemic. Also, the Ministry of Tourism has created a digital portal through which Greece is advertised

worldwide throughout the pandemic through videos, virtual tours and testimonials. Despite the negative effects of COVID-19, the Greek government took the opportunity to develop and upgrade e-government services to help Greek citizens connect with government services while staying at home during duration of the lock. This development was not only vital to making government services safer, easier and more user-friendly to the public in the fight against COVID-19, but also to making much-needed services available on the Internet. Finally, Greece continues to expand its digital services to many other sectors to achieve a unified government system and help companies and citizens benefit from this application by saving money and resources.

METHODOLOGY

The first phase of the research included the distribution of online questionnaires to middle and senior executives of public organizations, in order to evaluate the effectiveness and efficiency of this digital reform (value- based approach) and mainly to reveal the internal organizational factors that affect its implementation and acceptance within the organizations. The analysis of the quantitative data was carried out using SPSS statistics. Secondly, qualitative research was implemented through 30 structured interviews focusing on public servants' views regarding the adoption of digital governance and the factors that hinder its successful integration into public organizations in Greece during the current pandemic.

In order to measure the factors that impact on the success of digital adoption in public organizations, a 39-item questionnaire was distributed. In total, 251 public employees from middle and senior management participated in the research. The research took place during the lockdown period from October 2020 to March 2022. This sample allows us to proceed with reasonable and reliable statistical results and to draw valid conclusions. In addition, the validity of the questionnaire is ensured by the synthesis of questions of already published questionnaires in international surveys but also by the findings that came from the literature. The study examined the relationships between the components of Service Quality, Information Quality, and Perceived Impact on the organization and the dependent variable which is the Degree of Adoption (DA) of digital governance in a public organization. The Cronbach Alpha reliability test was used to measure the reliability of each component. The data were analyzed using the multiple regression routine of SPSS software version 24. Hammarberg et al (2016) suggest using the interview as a complementary tool when a quantitative study has been conducted and qualitative data is required to validate measurements or to explain the meaning of the findings. For the qualitative research, the use of case studies of international examples was initially chosen in order to determine the impact of the current pandemic on their public administrations but also the good practices applied by their governments to address the problems caused. Then, it was considered

important for the researchers to investigate the views and attitudes of the Greek public sector employees, regarding the digital transformation of the country that became more intense during the current pandemic crisis. For this reason, the tool of the structured interview was used, in which 30 middle executives participated. The analysis of their answers was done using the thematic analysis, in order to conclude to specific codes concerning employees' thoughts about the digital transformation and the factors that should be taken into account for its successful implementation within the public organizations.

DISCUSSION

From the total number of participants (N = 251) 209 (72.2%) were females and 42 (27.8%) were males. Table 1 shows the predictive ability of the three components mentioned (Service Quality (SQ), Information Quality (IQ) and Perceived Impact (PI) on the organization), concerning the adoption of digital governance. As we observe from Table 1, Service Quality (SQ), Information Quality (IQ) and Perceived Impact (PI) are positively related to the adoption of digital governance within a public organization and have a statistically significant effect on the outcome variable (p value <0,05) (Yong & Pearce, 2013).

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0,06	0,81		-0,07	0,94
	SQ	0,47	0,17	0,24	2,68	0,01
	IQ	0,17	0,17	0,09	1,04	0,30
	PI	0,23	0,18	0,11	1,30	0,19
a. Dependent Variable: DA						

Table 1. Coefficients^a

From these results it is obvious that the quality of services has a significant impact on the adoption of digital governance in a public organization and refers to concepts such as perceived ease of use, i.e., the degree to which the structure of the e-service portal is clear and easy for the user to navigate and is aligned with the needs of individual users. It also addresses issues of availability and accessibility of the online service at any time and to the extent that the online service portal operates quickly and facilitates everyday life. It also refers to the quality of the online transactions between the users of the service with other companies or organizations. This finding confirms the literature regarding the importance of ease of use, access and navigation in a digital environment for the successful integration of digital governance (Gilbert et al., 2004; Zeebaree et al., 2021; Sherzod, 2022; Ullah et al., 2021). Digital accessibility can be a key factor in creating public value. For example, it improves the lives of people

with disabilities, enables productivity and integration through participation in education, economics and politics. The COVID-19 pandemic stressed that the quality of public sector's digital infrastructure is fundamental to the well-functioning of economies and the well-being of citizens. Next, the quality of information also has an important relationship with the adoption of digital governance in a public organization. It refers to concepts such as "trust and security" (for example, obtaining the username and password on the portal, transaction security in the online service, the availability of a data recovery plan, reliability and sequence of the GDPR, the privacy policy so that users have easy access to the respective service while browsing the site, the use of the site of digital signatures for the authentication of users, the monitoring of citizens' activity). This finding is also supported by the literature as a lot of studies have pointed the significance of trust in the effective implementation and acceptance of digital transformation in the public sector both from citizens and employees (Gilbert et al., 2004; Vooglaid & Randma-Liiv, 2022; Mishra et al., 2021; Cahlikova, 2021; Freire & Casarin, 2021; AlAbdali et al., 2021; Zeebaree et al., 2021; Sherzod, 2022). Public confidence and trust are at the heart of the digital reform of the public sector, both as a lever and as a result of such a reform. It is important for citizens as well as for employees to feel that they are in control of what happens to personal data and that they are not at risk of malicious cyber activities that could threaten their personal well-being. Finally, the perceived impact on the organization also has a significant positive relationship with the adoption of digital governance in a public organization. In this component, important parameters related to the Equipment / Resources, the Policy / Strategy followed by the public organization as well as the Organizational Culture and Leadership were examined. There are again many studies which confirm the finding (Ebrahim & Irani, 2005; Al-Tkhayneh et al., 2019; Hai et al., 2021; Falk et al., 2017; Basyal & Wan, 2020; Milakovich, 2021; Lewis, 2017; Lokuge et al., 2019; Cinar, et al., 2019; Wipulanusat et al., 2019; Ruiz-Alba et al., 2019). Regarding the impact of Covid-19 on digital transformation of the public sector we can see that the current pandemic created opportunities and forced the majority of countries to react. One of the biggest lessons that countries learned from Covid-19 is that the state's ability to manage a crisis depends on its ability to govern. While the crisis is serious for all, it is particularly challenging for countries that have ignored these necessary investments in public sector potential (Kattel & Mazzucato, 2018). The EU countries, which are close to the average, have approximately 1,300 digital public services, which, however, cover 97% and 90% of the total interfaces of public administration with businesses and citizens, compared to 54% in Greece. Therefore, the reversal of the digital deficit of the public administration depends more on solving structural problems (e.g., limited interoperability of registers, fragmented digitalization of justice, bureaucratic entanglements and unnecessary procedures, etc.), rather than on the speed of digitalizing the existing bureaucracy. Similarly, countries in the EU on average, use extensive artificial intelligence systems in citizens'

communication with the public administration, in the management of highways and accidents, in the control of compliance with agricultural subsidy rules, in the management of long-term unemployment, etc. Similar "intelligent" applications have not yet been adopted in Greece. In addition, e-invoicing in these countries is at 95% (9% in Greece), with 90% of public bodies accepting B2G electronic invoices, while in Greece the relevant application has only recently started. Finally, these countries invest in familiarizing citizens with their digital portals. Indicatively, in Portugal there are more than 700 points of free education (Citizen Spots) for citizens with limited digital skills (such as the elderly ones) in the use of the portal gov.pt. For the Greek case, digital transformation of the public sector had been at the heart of government planning from the very beginning (Xanthopoulou & Plimakis, 2021). The ultimate goal was the complete transformation of the citizen's experience in their daily transactions with the State (Mastora et al., 2021). Through "gov.gr" citizens and businesses have the opportunity to use more than 1,300 digital services, and new ones are constantly being added. The shielding of the country from the pandemic and the priority of the government in supporting entrepreneurship and the protection of jobs brought significant economic figures for growth in Greece. Every year, citizens' digital transactions with the Greek state increase exponentially. From 8,8 million in 2018, they were increased to 94 million in 2020 and the estimate for 2022 is that they will exceed the 500 million. This shows a major shift in state-citizen relations, signaling the path to a new relationship of trust, a factor that is highlighted by many researchers (Gilbert et al., 2004; Vooglaid & Randma-Liiv, 2022; Mishra et al., 2021; Cahlikova, 2021; AlAbdali et al., 2021; Zeebaree et al., 2021; Sherzod, 2022; Porrua & Roseth, 2022) concerning its impact on public sector's innovativeness and improvement. Furthermore, many digital reforms are related to business needs. The implementation of gov.gr and the digitalization of services such as the authenticity of the signature have led to a significant reduction in visits to public organizations, reducing thus the cost of unnecessary bureaucracy and improving the country's position in the international competitiveness rankings. In order to strengthen entrepreneurship, the Ministry of Digital Government aims to reduce bureaucracy and to cultivate an environment of growth and innovation. Thus, procedures that have significantly burdened the daily life of the business world have already been simplified and digitalized, with the most typical example the integration of 25 solvency certificates into one, which contains all the relevant information with completeness and accuracy. The philosophy of facilitating and serving the citizen and the entrepreneur is reflected in new services designed by the Ministry of Digital Governance. Indicatively, we can refer to the establishment of a sole proprietorship, which will be completed without the need for the interested individual to visit the Single Social Security Entity ("EFKA" in Greek), the Tax Office and General Registry, saving time and avoiding inconvenience. The ultimate goal of the Greek government is to digitalize the procedures for all the daily life events. The methodology used is called "agile" in the language of developers and

means building a floor-to-floor system rather than delivering a huge project that is likely to be delayed and to malfunction. In this way, citizens have at their disposal as many and better services as possible in a shorter period of time. For a few months now, Greece has been able to confidently plan digital projects with funding from resources such as the Recovery Fund. This allows the whole digital strategy to be funded, as outlined in the Greek Digital Transformation Bible 2020-2025, a roadmap that includes the projects and how they are implemented. During the interviews employees were asked about how they feel with the recent and intensive appearance of digital governance and digitization in their workplace and in the public sector in general. It is noteworthy that their answers did not focus on technological factors. Asked about the factors that prevent them from smoothly integrating digital governance into their daily work practices, they said they do not feel they have the support of leadership so that they can successfully meet the new demands. They reported on issues of lack of information and training of staff but also on the urgent need to change the organizational culture and obtain the necessary equipment (27 of the 30 people referred to these factors). At the same time, they pointed the importance of training the citizens to develop their digital skills and successfully use the digital services. The triptych that emerges from the majority of responses is "changing the culture of the public sector-continuing education of executives-informing citizens". The minority of participants discussed about the need to change the current infrastructure, with the possibility of interaction in the entire public sector. They consider it necessary to integrate unified information systems that will communicate with each other and in common throughout the public system, e.g., document management system. Finally, they consider it necessary to have a strategic plan for digital transformation that will be specialized in the digital transformation of each ministry and their agencies, so that there is a plan of electronic services at a central level for all bodies of the public and not individually. However, all of them stated that given the bureaucratic mentality that prevails in the public sector of the Greek State, since its inception, what should be emphasized is the change of the culture of the country and the public sector in Greece, in order to overcome the bureaucratic entanglements that hinder the development of the State. They believe that the current pandemic was an opportunity for rapid changes in the public sector which should have been implemented since many years before.

CONCLUSIONS

Today, countries and industries face many challenges due to many technological developments. The public sector in most countries is trying to adapt to the new environment and take advantage of new technologies. Thus, public organizations not only improve their efficiency but also the experience and satisfaction of their citizens, creating public value. Some countries have largely succeeded in adopting

new technologies in their efforts to reduce bureaucracy and improve their efficiency, but others still have a long way to go to achieve the desired results.

In summary, this study supports previous research findings that the prerequisites for a successful digital transition of government are not restricted to technological difficulties. The introduction and use of new technologies by governments is sometimes impeded by organizational, institutional, and legal concerns, according to several situations. This is frequently explained by the fact that new technologies are anticipated to challenge almost every government process, system, and structure. These changes are difficult and necessitate radical reforms. Transformation is frequently considered in the literature as the ultimate objective of the development of digital governance, implying a move from public sector digitalization to broader government changes. Multiple stages of change and redesign, not just of the organizational processes involved, but also of regulatory and institutional components, are required to maintain this transition. In order to rebuild the capacity of the public sector after COVID-19, public administration must be seen from a new perspective. Investing in long-term skills and competencies in public organizations provides sources of flexibility and responsiveness during deep crises and their consequences. Lessons learned from successful COVID-19 responses show that preparing for future crises means investing in key public sector competencies and capabilities, including the ability of organizations to interact with other value creators in society - designing contracts for delivery to the common interest. The results can be useful for policy makers in their day to day management practices, while they will also provide useful information for top managers in their management decisions and actions concerning the creation of public value through an effective digital reform.

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WHAT MOVES THE MEDICAL TOURISTS? THE MAIN MOTIVATIONS AND FEARS – WHAT IS YET TO BE DISCOVERED

Zabumba, Bárbara¹; Meneses, Raquel¹; Mouta, Cristina²

¹Faculty of Economics, University of Oporto, FEP, Porto, Portugal

²School of Hospitality and Tourism, Polytechnic Institute of Porto, IPP, Porto, Portugal

ABSTRACT

Due to the recent growth of medical tourism, studying the different aspects of this topic is becoming more and more important. Therefore, learning the profile of the medical tourists is becoming fundamental. The current study intends to contribute to a better understanding of the profile of the medical tourists/potential medical tourists, namely in terms of the main motivations and fears related to the performance of medical tourism. For this purpose, 20 phone interviews were done. The findings revealed some different fears and motivations to be explored by the literature. In terms of fears, the unknowing/untrusting regarding the healthcare system of the country of destiny, the eventual consequences for the individual's health, and not being able to communicate with the medical staff. Also, the culture and geographic proximity and the positive information, among others, were identified in terms of motivations. Additionally, it was possible to conclude that the motivations related to the quality/the perceived quality of the medical procedure influence the decision to perform or not an aesthetical intervention abroad. The motivations not directly related to it probably impact the decision but are not determinative. Finally, it was possible to identify some aspects that may significantly impact the choices of the medical tourists/potential medical tourists, such as the expected time of recovering in the other country.

Keywords: Medical tourism; Medical travel; Medical tourist; Potential medical tourist; Motivations and fears; Aesthetic intervention; International patient.

INTRODUCTION

The recent developments in the health and social care systems led to medical tourism growth. Several governments worldwide have been recognising the benefits of medical tourism to the economy and investing in it (World Travel & Tourism Council, 2019). Therefore, studying different aspects of medical tourism is becoming more and more critical.

Medical tourism and the satisfaction of the medical tourists have been widely approached in the Academy in the last few years, namely by articles in journals of the first quartile following the scale SJR 2020, such as the Journal of Hospitality and Tourism Management, the Journal of Destination Marketing and Management and the Journal of Hospitality and Research.

Some authors have studied satisfaction in medical tourism contexts because this variable is more important in these contexts than in traditional forms of tourism (Mikulić et al., 2021). In this regard, the authors have already studied topics like the evaluation of the medical travellers' satisfaction through online review analysis (Ahani et al., 2021), the effect of cultural distance on medical tourism (Esiyok et al., 2017), a framework for medical tourists' satisfaction and loyalty by customer segmentation and quality improvement (Nakhaeinejad et al., 2021) and the factor structure of medical tourist satisfaction: exploring key drivers of choice, delight, and frustration (Mikulić et al., 2021).

In fact, it is possible to conclude, from the research performed and from the different articles analysed, that, in line with Tapia et al. (2020), there is a lot of literature about medical tourism and that this literature is aligned with the growing importance of the sector and the visible benefits of it to the economy of the countries. Notwithstanding, most of the studies considered only individuals who were already medical tourists and not also people that could potentially become one. This is a significant gap in the literature, as it seems relevant to understand what inhibits the individuals to perform this activity. Thus, it is important to also perform studies among people who never practised medical tourism.

In 2019, according to the World Travel & Tourism Council (2021), Travel & Tourism was one of the largest sectors of the economy in the world, corresponding to 10.4% of the global GDP (the correspondent of USD 9.2 trillion) and 10.6% of the worldwide jobs (the correspondent to 334 million jobs). In 2020, because of the COVID-19 pandemic, the sector of Travel & Tourism's contribution to the GDP declined to 5.5% of the global GDP (the correspondent to USD 4.7 trillion). The jobs associated with the sector fell to 272 million jobs, i.e., 62 million jobs were lost (World Travel & Tourism Council, 2021).

Notwithstanding the above, there are predictions of massive growth of global medical tourism from USD 19.79 billion in 2020 to USD 21.93 billion in 2021 and USD 40.03 billion in 2025. According to the Medical Tourism Global Market Report 2021: COVID 19 Growth and change to 2030, as well as the expectation of the Market Data Forecast, which estimates that the medical tourism market in Europe will grow from USD 7.26 billion in 2021 to USD 17.26 billion in 2026 (CAGR of 18.9%), make it urgent to

have more studies about medical tourism and medical tourists, namely as the medical tourism appears now as a way to boost the Travel & Tourism sector.

Aim and objectives of the study

Considering all the above, we propose to study the main motivations and fears of the potential medical tourists by responding to the questions: “What moves the medical tourists?” and “What stops the medical tourists?”, i.e., discovering which factors besides the ones already explored in the literature influence the medical tourists and the potential medical tourists to perform medical tourism, both for the positive by motivating the performance of this type of tourism and for the negative by contributing to the decision of not performing this activity.

For purposes of this study, a qualitative methodology was used as this was identified in the Academy as the most suitable methodology to discover new variables not identified by the literature (Augusto, 2014). In this regard, the research was performed through phone interviews.

MEDICAL TOURISM

Tourism

Even though the literature has a lot of empirical studies related to tourism and to the different aspects in this regard, there is a clear gap in what respects the theoretical framework of this area, which may be caused by the unique nature of this activity in which the consumers travel to another location to consume non-traded goods and services (Calero and Turner, 2020).

Some authors have understood tourism as a collection of activities in which tourists (who are external visitors) participate. Therefore, tourism corresponds to a bundle of goods and services, which, for academic purposes, may be viewed as different and complex since it includes a lot of different goods and services and since each destination has unique features (Calero and Turner, 2020; Luzzi and Flückiger, 2003).

In fact, tourism is a major industry for many countries. Its benefits can be very significant, notwithstanding some challenges that arise from it, such as the environmental impact, the high traffic and accidents and the high prices, for example (Ahmad et al., 2020).

Between the beginning of the year 2009 and until September 2019, the international tourist arrivals of overnight visitors in the world grew at an average of 4,2% per year, and, if the year of 2009 is not considered, this growth corresponded to an average of 5,6% per year (World Tourism Organization, November 2019). The industry of tourism was widely affected by the pandemic. Notwithstanding,

international tourism saw a slight improvement in June and July 2021 (World Tourism Organization, September 2021). Even though there is still a lot of uncertainty about the future of travel and tourism after the pandemic (Ernst & Young Global Limited, 2021), it is important to note that, in 2019, the total tourism exports of goods and services in the world corresponded to 25,159 billion of USD. It represents significant growth since 2010, when this result corresponded to 19,270 billion of USD (World Tourism Organization, May 2021).

The literature identifies a lot of different types of tourism. Some have existed for a long time, and others are more recent and have been developing in the past few years - business tourism, culinary tourism, cultural tourism, ecotourism, educational tourism, seaside tourism, sports tourism, religious tourism, rural tourism, urban tourism, wine tourism, health tourism, medical tourism, among others (Camilleri, 2018).

This investigation focus on medical tourism, namely because of its particular characteristics, such as the high involvement and high-risk associated (Kang et al., 2014), as well as the high growth verified in the past few years and the huge importance that this type of tourism has been having in different countries for economic, social and other reasons (Ahani et al., 2021; Mikulić et al., 2021; Suess et al., 2018; Tapia et al., 2020).

Medical tourism

Due to the increasing attention to personal health and its globalisation, a new branch of tourism has been rising, medical tourism (Nakhaeinejad et al., 2021). This new branch of tourism “is increasing quickly since it contributes both to the health and tourism sectors” (Ahani et al., 2021). Initially, it was viewed as an exclusive luxury reserved for rich people; however, today, its consumption is already generalised, becoming an international trend (Kang et al., 2014).

The generality of the authors has defined medical tourism as an industry in which people travel to another country to seek different types of medical services (Ahani et al., 2021; Bies and Zacharia, 2007; Cesario, 2018; Mathijssen, 2019; Tapia et al., 2020; Yu and Ko, 2012). In this regard, and as a complement to the previous definition, it is important to note that some authors identified medical tourism as the outsourcing of healthcare (Ahani et al.; 2021, Bies and Zacharia, 2007; Yu and Ko, 2012). Also, some authors identified the existence of “domestic medical tourism”, which is the activity in which people travel to another city/area in the country of their residence to seek different types of medical services (Cesario, 2018). Due to the objectives of this study, only international medical tourism was considered.

In health tourism context, another category has been rising in the past few years: wellness tourism. It involves travelling to seek preventive and rehabilitative healthcare, which may include, among others,

relaxing/resting activities (Cesario, 2018; Tapia et al., 2020). In fact, health tourism has been considered the set of medical tourism and wellness tourism (Cesario, 2018; Tapia et al., 2020). Notwithstanding, the focus of this research will be medical tourism, not wellness.

Medical tourism is an industry that is growing, and that fact represents a significant opportunity for the economies of all the countries that are able to invest in it properly (Tapia et al., 2020). The rapid growth of this industry is explained mainly by the fast and exponential growth of the number of medical tourists/travellers around the entire world (Ahani et al., 2021; Ghosh and Mandal, 2019). Different countries consider medical tourism a way to diversify the economy because it has been a “rapidly developing market” (Ahani et al., 2021). In this regard, many authorities have been recognising medical tourism as a vital industry, namely because it diversifies the current types of tourism, improves the local healthcare systems, creates more jobs, and improve the economic development of the countries (Ahani et al., 2021; Suess et al., 2018). Also, medical tourism is particularly relevant in a lot of countries to reduce the high seasonality of the tourism sector (Mikulić et al., 2021; Tapia et al., 2020), as well as the uneven tourism development across the different areas of the countries (Mikulić et al., 2021).

Even if the treatment involved corresponds to an elective one, medical tourism is a service that implies high involvement and high-risk situations. Therefore, the consumers choose to increase the benefit or reduce the risk (Kang et al., 2014). Thus, and as referred, the tourists' satisfaction and motivations and fears are more important in this context of tourism than in the traditional forms (Kang et al., 2014; Mikulić et al., 2021; Woo & Schwartz, 2014).

Medical tourists and their motivations and fears

The term “tourist” has been defined differently by different authors and, therefore, there is no consensual definition in the Academy. Notwithstanding, the definition considered here is that tourists correspond to people visiting a different area from one of their residences for purposes differing from work-related obligations or another type of personal obligation (Masberg, 1998).

“A medical tourist is an international traveller whose motivation is the search for healthcare services in a different country from his own country of residence” (Tapia et al., 2020). These tourists/potential tourists are influenced by several factors, which affect not only if the individuals perform or not medical tourism but also the choice of the destination, such as cultural aspects (Mathijssen, 2019; Nakhaeinejad et al., 2021; Tapia et al., 2020); the availability of the medical treatment desired; the financing possibilities and the perceived quality (Mathijssen, 2019; Tapia et al., 2020). Even though it is possible to identify the main factors that influence, in general, the medical tourists, as well as the potential medical tourists, the relevance of the factors and the eventual identification of other relevant ones will depend on each individual and on the treatment required, for example, the search for low

prices widely influences the international search for plastic surgery (Woo and Schwartz, 2014), but it may not influence the international search for other types of medical care (Tapia et al., 2020).

It is important to note that, since medical tourism is a high-risk and high-involvement activity, as the medical treatments associated with it have a direct influence on the individuals' health, it generally causes the tourist/potential tourist the fear of receiving medical treatment in foreign countries (Kang et al., 2014). In this regard, the works of Sheng-Hshiung et al. (1997), Kang et al. (2014) and Collins et al. (2019) already identified that the fears of the medical tourists are mainly related to the sociopsychological fear of the unknown conditions of the country of destiny, which may include criminal attacks, unfair laws against international travellers and the possible disappointment and dissatisfaction regarding the accommodation facilities, both in terms of hygiene and security, travel contents, means of transportation, namely in terms of convenience and safety, local food, among others (Kang et al., 2014; Sheng-Hshiung et al., 1997; Collins et al., 2019).

A recent study showed the central importance of the hospital reputation and the physician's expertise, followed by the shorter waiting lists for treatment/service, the accessibility, and the uniqueness of treatments/services as key factors for choosing a particular medical institution in contexts of medical tourism (Mikulić et al., 2021). Another recent study concluded that the key factors of medical tourism, with a significant positive influence on the tourism attraction and the revisit intention, are the doctor's expertise and reputation, the health evaluation, the presence of international certified doctors and staff, the safety of medication quality, the quality of the medical treatment, the high healthcare quality, the service orientation of the medical staff, the advanced medical treatment, the availability of medications, the on-site pharmacy and the prescription assistance, the waiting time for medical treatment from the time of the first contact to the time of the real treatment, the quality of the required treatment, and the hospital contact information (Wang et al., 2020). The same study also concluded that the tourism attraction does not influence the revisit intention (Wang et al., 2020).

Notwithstanding the above, "understanding what drives choice-making for health patients is a complex venture" (Mathijssen, 2019), which is one of the reasons why this study is being performed.

Conclusion

It is easy to understand that medical tourism, the industry in which people travel to another country to seek different types of medical services (Ahani et al., 2021; Bies and Zacharia, 2007; Cesario, 2018; Mathijssen, 2019; Tapia et al., 2020; Yu and Ko, 2012) has been growing fast and has been having a massive impact in different countries for different reasons, such as economic and social (Ahani et al., 2021; Mikulić et al., 2021; Suess et al., 2018; Tapia et al., 2020). Despite the type of treatment involved, medical tourism is a service that implies high involvement and high-risk situations, as the medical

treatments related to it directly influence the tourists' health (Kang et al., 2014). Thus, the tourists' satisfaction, motivations, and fears are more important in these contexts than in traditional forms of tourism (Kang et al., 2014; Mikulić et al., 2021; Woo and Schwartz, 2014).

The literature has identified the factors that influence the decision to perform or not medical tourism. As for the motivations, there are already different studies (Mathijssen, 2019; Mikulić et al., 2021; Wang et al., 2020; Tapia et al., 2020, etc.) that identify some motivations, which are summarised in the table below (table 1). As for the fears, there are fewer studies published in this regard, notwithstanding, Kang et al. (2014) e Sheng-Hshiung et al. (1997) already identified some fears of the medical tourists (table 1).

Motivations	Fears
Hospital's good reputation (Mikulić et al., 2021)	Criminal attacks (Kang et al., 2014; Sheng-Hshiung et al., 1997)
Physician's and staff's reputation and certification (Wang et al., 2020; Mikulić et al., 2021)	Unfair laws against international travellers (Kang et al., 2014; Sheng-Hshiung et al., 1997)
Service orientation of the medical staff (Wang et al., 2020)	Lack of hygiene and security of the accommodation facilities (Collins et al., 2019; Kang et al., 2014; Sheng-Hshiung et al., 1997)
Shorter waiting lists (Mikulić et al., 2021; Wang et al., 2020)	Dissatisfaction regarding the travel contents (Kang et al., 2014; Sheng-Hshiung et al., 1997)
Large financing possibilities (Collins et al., 2019; Mathijssen, 2019; Tapia et al., 2020,)	Dissatisfaction regarding the means of transportation (Kang et al., 2014; Sheng-Hshiung et al., 1997)
Uniqueness of treatments (Mikulić et al., 2021)	Local food (Kang et al., 2014; Sheng-Hshiung et al., 1997)
Availability and perceived safety of medication quality (Wang et al., 2020)	
Availability and perceived quality of the treatment (Wang et al., 2020)	
Advanced medical treatment (Wang et al., 2020)	
Accessibility (Mikulić et al., 2021)	

Table 1. Main motivations and fears of the medical tourists identified in the literature so far

EMPIRICAL STUDY

Research goals and questions

The main goal of this study is to discover some motivations and fears of the medical tourists and the potential medical tourists not yet identified by the existing literature. In this regard, it is possible to identify the following research question:

Q1: Which are the main motivations and fears of the medical tourists/potential medical tourists? - what is yet to be discovered.

It is important to note that, in contexts of medical tourism, "treatment can be considered obligatory, meaning that treatment is required to manage a life-threatening condition, or it may be elective,

meaning that it is dependent on personal preferences or desires" (Cesario, 2018). Considering the purpose of this research, which is to study the main motivations and fears of the medical/potential medical tourists, only the elective treatments are considered, as on it there is effectively a choice by the tourist, focusing on the aesthetic services such as plastic surgeries.

Methodology

A qualitative methodology was used to proceed with the present study, as this is the most suitable methodology to discover new variables not identified by the literature (Augusto, 2014).

Survey development

A survey was conducted, and the correspondent questionnaire was developed based on previous work in the related literature, as presented above.

In the first section of the questionnaire – "personal data" – the following three questions were presented: "How old are you?", "What is your gender?", and "What are your academic qualifications?". Next, the respondents were asked to answer, in generic terms, whether they would be willing to travel to another country to perform an aesthetic intervention and to what extent they would be willing to do it, by using a scale of levels of intervention (1 = intervention without anaesthesia, 2 = intervention with local anaesthesia, 3 = intervention with general anaesthesia, 4 = intervention combining local and general anaesthesia).

In the third and central section of the questionnaire, the respondents were asked to answer the following questions regarding first India, second Costa Rica, and third regarding Canada. These countries are part of the top 10 countries with more medical tourism in 2020 and were selected based on their Human Development Index (HDI). India corresponds to the country with a lower HDI in the top 10, Canada with a higher HDI in the top 10 (together with Singapore), and Costa Rica corresponds to an intermediate HDI in the top 10.

1. Imagine that someone offered you an aesthetic intervention; would you go to the referred country?

In the cases in which the answer was "not": 2. Why not?; 3. What would make you go?

In the cases in which the answer was "yes": 2. Why would you go?

Finally, the respondents were asked if there was anything else that was not referred to in the interview and that they understood that could be relevant in the moment of the choice for performing an aesthetic intervention abroad.

Sample and data collection

For purposes of the present study, the sample corresponded to twenty Portuguese adults, stratified in terms of age, gender and academic qualifications.

The data was collected through telephone interviews conducted by the researchers. An aleatory method was used to select the telephone numbers, which corresponded to drawing a number (0-9) for each character of the nine telephone numbers, except for the first character, which always corresponds to nine in Portugal, and of the second character, which always corresponds to 1, 2, 3 or 6 in Portugal.

Results

Profile of the respondents

At the beginning of the research, the twenty respondents were stratified according to the Portuguese population. Therefore, the final sample included a large age dispersion; half people were male, and the other half were female, and people with and without higher education were interviewed, as follows:

Respondents' characteristics			
Respondent	Gender	Age	University attendance
1	Male	27	Yes
2	Female	69	No
3	Female	53	Yes
4	Female	23	Yes
5	Female	49	Yes
6	Female	26	Yes
7	Male	31	Yes
8	Male	21	No
9	Male	73	Yes
10	Female	61	No
11	Female	31	Yes
12	Male	52	Yes
13	Male	58	Yes
14	Female	40	Yes
15	Male	64	No
16	Female	37	No
17	Male	41	Yes
18	Male	49	Yes
19	Female	58	Yes
20	Male	38	Yes

Table 2. Respondents' characteristics

Presentation and discussion of the results obtained

From the research made and the interviews performed, and as already referred above, it was possible to understand that the people with lower education qualifications may not feel comfortable with the idea of medical tourism, namely in the aesthetic area of intervention, both for unfamiliarity with the themes and preconceptions about the same.

It was possible to understand that the majority of the people probably, a priori, would not be willing to travel to another country to perform an aesthetic intervention; the level of intervention, namely in terms of the need to use (or not) local and general anaesthesia may be a factor that influences this decision. Most of the respondents, even those who said upfront that they would be willing to travel to another country for the referred purpose, admitted that they would probably not go abroad to perform an aesthetic intervention if it required more than local anaesthesia. Notwithstanding, and even though in the minority, there should be a part of the population, namely among the female individuals, willing to perform an aesthetic intervention abroad with local and general anaesthesia combined. It was also understood from the research conducted that the female individuals may also be the part of the population more willing to perform an aesthetic intervention outside of their country of residence.

Additionally, from the research performed, it appears that most of the population probably would not be willing to travel to a country with an HDI lower than the one in which they live. Notwithstanding, it was also possible to see that some individuals, if they have not to pay anything, would be willing to go to these countries, which may also be indicative that, as already presented by Woo and Schwartz (2014), the price is a relevant factor in the choice to perform (or not) medical tourism, and in the country selection. Probably most of the population would easily travel to a country with an HDI higher than the one they live in to perform an aesthetic intervention.

Regarding the fears, this study supports the impact of the unknown conditions of the country of destiny, namely the possible disappointment and dissatisfaction regarding the accommodation facilities and hygiene and security/safety, already identified by the literature (Sheng-Hsiung et al., 1997, Kang et al., 2014, Collins et al., 2019). In this regard, and based on the present study, not knowing the country's healthcare system of destiny probably also constitutes a major fear.

Additionally, it is understood that the trust (or untrust) in the health system of the country of destiny, as well as the eventual consequences for the health (both in the short and long term), namely for inadequate treatment, and the possibility of having some problem during the treatment, constitute fears of the medical tourists/potential medical tourists when deciding whether to perform or not medical tourism, namely in the aesthetic area.

Still, in the field of fears, the medical tourists/potential medical tourists may be afraid of getting trapped in the country of destiny, namely because of postoperative complications, of the trip by itself and of not having the adequate response capacity in the destination country, namely in terms of the physicians' expertise and quality and the technology available.

Finally, the fear of not being able to communicate with the medical staff of the country of destiny should constitute an important fear in this field.

In fact, it is possible to divide the fears of the medical tourists/potential medical tourists into two major groups: the ones directly related to the medical procedure and the consequences that may arise from it and the ones related to the lack of knowledge and comfort arising from travelling to a different country for purposes of medical tourism. The first group includes the eventual consequences for the health in the short and long term, namely inadequate treatment, the possibility of having some problem during the treatment, and postoperative complications. As for the second group, it includes the following fears identified: the fear of the unknown conditions of the country of destiny, namely in terms of the possible disappointment and dissatisfaction regarding the accommodation facilities and hygiene and security/safety, not knowing the healthcare system of the country of destiny, the fear of getting trapped in that country, of the trip by itself and of not having the adequate response capacity in the destination country, namely in terms of the physicians' expertise and quality and the technology available.

The motivations may be divided into two: the ones directly related to the quality/the perceived quality of the medical procedure, such as the reputation of the hospital (Mikulić et al., 2021), and the physician and the international certification of the staff (Mikulić et al., 2021; Wang et al., 2020), and the ones that are not directly related to the quality/the perceived quality of the medical procedure, such as the accessibility (Mikulić et al., 2021) and the shorter waiting lists (Mikulić et al., 2021; Wang et al., 2020). Regarding the first motivations presented, probably they have a direct impact on the decision to perform or not the aesthetical intervention abroad and the choice of the correspondent country, reason why they may be considered as core motivations; as for the second ones, probably they have an impact on the decision but are not determinative, reason why they may be seen as accessory motivations. It is important to note that the uniqueness of the treatment, i.e., its exclusivity in the correspondent destination country, appears not to have such an important role in the decision concerned.

Besides the above, this study also added as being relevant in contexts of medical tourism the following motivations: the trust in the country's health system; the safety of the country; having a lot of positive information about the country and the procedure, namely having real success stories, the curriculum of the doctor, etc.; the culture and geographic proximity; the desire to visit the country; being advised by doctors of the individuals' trust to perform such treatment in such country; and having positive feedback from someone close.

IMPLICATIONS AND CONTRIBUTIONS OF THE STUDY

The table 3 presents the new motivations and fears that the individuals may feel when considering performing medical tourism [the ones identified with a (*)] identified in the present study, together with the fears already identified by the literature before.

Motivations	Fears
<p>Core motivations:</p> <ul style="list-style-type: none"> - Hospital's good reputation (Mikulić et al., 2021) - Physician's and staff's reputation and certification (Mikulić et al., 2021, Wang et al., 2020) - Uniqueness of treatments (Mikulić et al., 2021) - Availability and perceived safety of medication quality - Availability and perceived quality of the treatment (Wang et al., 2020) - Advanced medical treatment (Wang et al., 2020) - Trust in the destiny country's health system (*) - Having a lot of positive information, namely in terms of real success stories (*) - Being advised by doctors of the individuals' trust to perform such treatment in such country (*) - Positive feedback from someone close (*) 	<p>Fears related to the lack of knowledge and comfort arising from travelling to a different country for this purpose:</p> <ul style="list-style-type: none"> - Criminal attacks (Kang et al., 2014, Sheng-Hsiung et al., 1997) - Unfair laws against international travellers (Kang et al., 2014, Sheng-Hsiung et al., 1997) - Lack of hygiene and security of the accommodation facilities (Kang et al., 2014, Collins et al., 2019, Sheng-Hsiung et al., 1997) - Dissatisfaction regarding the travel contents (Kang et al., 2014, Sheng-Hsiung et al., 1997) - Dissatisfaction regarding the means of transportation (Kang et al., 2014, Sheng-Hsiung et al., 1997) - Local food (Kang et al., 2014, Sheng-Hsiung et al., 1997) - Not knowing the country's healthcare system of destiny (*) - Untrust in the health system of the country of destiny (*) - Getting trapped in the country of destiny (*) - The trip by itself (*) - Not being able to communicate with the medical staff of the country of destiny (*)
<p>Accessory motivations:</p> <ul style="list-style-type: none"> - Service orientation of the medical staff (Wang et al., 2020) - Shorter waiting lists (Mikulić et al., 2021, Wang et al., 2020) - Accessibility (Mikulić et al., 2021) - Large financing possibilities (Mathijssen, 2019, Collins et al., 2019, Tapia et al., 2020) - Safety of the country (*) - Culture and geographic proximity (*) - Desire to visit the country of destiny (*) 	<p>Fears directly related to the medical procedure and the consequences that may arise from it:</p> <ul style="list-style-type: none"> - Not having the adequate response capacity in the destination country, namely in terms of the physicians' expertise and quality and the technology available (*) - Eventual consequences for the health both in the short and long term (*)

Table 3. Main motivations and fears of the medical tourists

Additionally, in the study performed, it was possible to understand that the following aspects may have a severe impact on the choices of the medical tourists/potential medical tourists when considering the possibility of performing medical tourism: some countries/areas are known for being a reference in some areas of the medicine, therefore, the people may not want to go to those countries to do any medical procedure, but want to go (or have more motivations to go) to perform that specific intervention; the expected time of recovering in the other country; and the constant contact that the people have with failure cases of interventions in countries less developed, namely on television, may also have an essential role on this type of decisions.

LIMITATIONS OF THE STUDY AND FUTURE RESEARCH

The main limitations of this study are the size of the sample and the fact that all the interviewed individuals were Portuguese nationals. The two main limitations presented, even though do not

compromise the results obtained, are probably a good indicative that there may be still a lot of new information to be discovered in the field of the motivations and fears of the medical tourists and potential medical tourists, as new inputs should be discovered interviewing more people and people with other nationalities and, thus, another background. Therefore, future studies may consider extending the research to a larger group of individuals and people from different nationalities, not only Portuguese individuals. In fact, it may also be relevant to analyse the differences between the responses of individuals with different nationalities to analyse the impact of country development and national culture.

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CAN ARTIFICIAL INTELLIGENCE (AI) MANAGE BEHAVIOURAL BIASES AMONG FINANCIAL PLANNERS?

Zahid, Hasan¹; Vidya S, Athota¹; Vijay, Pereira²; Daicy, Vaz²

¹School of Law and Business, The University of Notre Dame, Sydney, Australia

²People and Organizations, NEOMA Business School, Reims, France

ABSTRACT

The main novelty of this paper is to propose artificial intelligence (AI) to manage behavioural biases in the financial decision-making process. An empirical study by Kahneman and Tversky (1979) identifies the evidence of behavioural biases in the investment decision-making process- a reversal of an established tenet in traditional finance. According to conventional finance, market and market agents are efficient and systematic, so financial investment decisions are optimum. Since the literature identifies various behavioural biases, financial planners attempt to address the biases using psychographic classifications and automated financial services. Although adopted psychographic classification and Robo advisors were not solely developed to manage biases, financial planners have adopted these techniques to make a better decision. However, these techniques have some limitations; therefore, the desired goal has not been achieved. Through this study, we propose that the financial planning industry should embrace AI to circumvent the problems associated with the behavioural biases. In recent periods, AI has attained significant efficacy and can engage in supervised and unsupervised learning. AI can be applied in financial planning through a neural network, which will help to overcome cognitive biases in financial decision-making process.

Keywords: Cognitive biases, Decision making, Artificial Intelligence, Financial planners, Financial advisors, deep learning, reinforcement learning, hindsight bias, confirmation bias.

INTRODUCTION

Traditional economic theories assume that individuals act rationally, and the role of emotions or psychological issues is kept at bay in financial decision-making situations. Here specifically, we are pointing at the investment decisions taken by financial planners for their clients. In this decision-making process, financial planners consider all the available information, process the collected information judiciously, and arrive at optimal financial decisions. The optimal decisions lead to the most desired outcome for investors and help attain the financial goals of these individuals. However,

behavioural finance and neuroeconomics research reveals that individuals are not entirely rational and susceptible to various biases. The decision-making process occurs in the human brain through a mutual communication between the prefrontal cortex and hippocampus with neural connectivity. Wang (2008) suggests that the prefrontal cortex estimates the required information for the decision-making process and then obtain this information from the hippocampus. Consequently, the decision-making process is susceptible to biases. In his ground-breaking research, Simon (1967) contends that the system will be incomplete without taking emotions and situational constraints into the decision-making process producing sub-optimal decisions. Financial planners who regularly take financial decisions for their clients also exert biases in their decision-making process. Baker et al. (2017) assert that financial planners' psychological biases can lead to flawed economic decisions. Understanding personality traits and effective behaviour management techniques positively influence financial decisions, but unfortunately, this is not effectively explored (Pompian, 2012).

In the current fourth industrial revolution, Artificial Intelligence (AI) offers a new sense of hope to combine human intellect and machines to resolve the biases in the decision-making process. Several studies have already identified the use of AI for decision-making purposes. In a recent paper, Bogoviz (2020) shows that AI leads to a human-artificial intelligence framework and data intelligence and analytics for effective decision-making purposes for businesses. Duan et al. (2019) and Pillai et al. (2020) demonstrate that the integration of AI into a business setting offers tangible benefits through effective decisions. Although AI influenced human service jobs are well established (Huang & Rust, 2018), the authors find no research on how AI can help financial planners deal with biases. In this conceptual paper, we reflect on the biases of the financial planners and propose AI as a possible solution to overcome biases in the financial decision-making process. In this case, the research will use two specific cognitive biases and demonstrate how AI can resolve these biases.

Behavioural finance classifies these biases into two categories: cognitive and emotional biases. Pompian (2012) defines that cognitive biases arise from faulty cognitive reasoning; whereas, emotional biases result from the emotions' influence. Unlike in traditional economics, bounded rationality is commonly assumed in behavioural economics in that decisions cannot be made rationally, thereby resulting in cognitive biases, as pointed out by Kahneman (2013), Tversky and Kahneman (1974) and Kahneman and Tversky (1984). Kahneman and Tversky (1984) stated that humans' cognitive information processing is conducted through either of the following processes. System 1, where the operation is quick, automatic, without much time consumption and intuitive, with little or no effort, and System 2, requires effortful, demanding and deliberate mental activities.

Nevertheless, a heuristic approach of cognitive information processing, adopted when there is a time constraint, is based on System 1 and is intuitive and straightforward. However, such methods frequently suffer from cognitive biases. Because of these cognitive and emotional biases, individuals cannot process the information optimally. Cognitive biases are hypothesised to distort decision making, thereby leading to human errors in judgment, decision making and behaviour, eventually (in the worst case), triggering incidents, crashes, collisions or disasters if the commitment to the biased judgment, decision making and behaviour is escalated (Murata and Nakamura, 2014). Our evaluation in the financial planning industry literature indicates two approaches taken to circumvent the behavioural biases for optimal financial decisions for the clients. These are psychographic classification of clients and digitalisation of financial planning by adopting Robo-advice. However, these two approaches' primary purpose is not to overcome biases in the financial decision-making process. The clients' psychographic analysis intends to classify them based on their personality traits, beliefs, attitudes towards money and investment, interests, and other factors. This classification's main objective is to understand the clients' return objective and perspective towards risk so the financial planners can advise efficiently. While understanding the clients using the psychographic classification, instinctively, financial planners identify the clients' potential behavioural biases; however, this technique cannot allow managing the biases.

On the other hand, digitalisation of financial planning, e.g. Robo-advice, automatically avoids human interaction to bypass biases. However, the application of the Robo-advice is limited to certain areas of financial planning services- market timing for efficient trading, rebalancing the portfolio on time, constructing a tax-efficient portfolio and cost savings through transaction automation. Moreover, Robo-advice efficiently collects information from the clients and processes this information for decision-making purposes. However, the limitation of using Robo-advice is that most clients want their services from actual financial planners, not directly from computers or robots.

Considering the implications of biases in the financial decision-making process and understating the limitations of clients' psychographic classification approaches and digitalisation of financial planning in dealing with the biases, we propose incorporating AI in financial planning services. AI attempts to extend human capabilities and accomplish tasks that neither humans nor machines could on their own. In this case, the financial planners will utilise AI in tackling human biases to achieve optimal financial decisions for the clients. AI-powered financial planning services can assist financial planners in developing risk-efficient portfolios, availing the market timing by controlling the behavioural biases of both clients and financial planners themselves. AI can solve complex tasks through supervised, unsupervised, and reinforcement learning. Through such human machine collaboration, influence of

financial planners' biases on the financial decisions can be reduced to a great extent as the preliminary data analysis is carried out by AI. This way the financial planner and client both will be aware of the current scenario with factual data.

Section 2 discusses the processes involved in financial planning services with the identification of behavioural biases; Section 3 introduces the current practices in mitigating behavioural biases in the financial planning industry; Section 4 proposes the use of AI in financial planning services. Finally, Section 5 concludes the study with implications.

FINANCIAL PLANNING SERVICES

Financial planning service starts with understanding the clients' financial goals along with their risk capacity and risk tolerance, investing in an optimal portfolio and incorporating retirement planning, estate planning, and attaining tax efficiency. People find financial planning tasks are overwhelming, and they are fearful of making expensive mistakes. These mistakes could jeopardise their long-run financial wellbeing. Barnes (1985) states that the complex economic environment, frequent changes in income and estate taxes, and new and varied ways to invest money have caused people to seek professional financial advice. Harris (1998) states that financial planners influence the decision-making process and behaviours of the clients.

As evident in the literature, behavioural biases are rampant among people (see Kahneman and Tversky, 2013; Thaler, 1980, Thaler, 1999 and others), and financial clients exhibit cognitive and emotional biases. Biases are evident throughout the financial planning services, for e.g., clients' information at the beginning of financial planning services is often filled with emotions rather than objective information. Therefore, experienced financial advisers know that defining financial goals is critical to creating an investment program appropriate for the client. To best define financial goals, it is helpful to understand the psychology and emotions involved in the decisions underlying the goals. Again, during portfolio formation or asset management, clients frequently exhibit biases. For instance, clients show inertia and status quo bias in asset allocation by not changing their portfolio construction even though they need it for attaining their financial goals (Amerkis and Zeldes, 2000). Benartzi and Thaler (2001) observe naïve diversification among the investors by allocating the same weights in their various investments. Clients also show overconfidence in the same portfolio management by excessive trading (Barber and Odean, 1999) and home bias by investing only in familiar assets (French and Poterba, 1991). Yeske and Buie (2014) state that financial planning clients are prone to behavioural bias, and advisers must mitigate these tendencies.

A large part of investing involves investor behaviour. Emotional processes, mental mistakes, and individual personality traits complicate investment decisions. Lerner et al. (2005) stated that emotion outweighs rationality in decision making. For providing effective financial services to clients, a financial planner or adviser requires an understanding of an investor's psychology. Sometimes data are no match for human emotions. In support of financial planners, in this case, Fisher (2014) notes, "One of the greatest services a financial adviser can provide to clients is helping to ensure that in times of market turbulence, reason, discipline, and objectivity triumph over emotions such as fear, greed, and regret". Baker *et al.* (2017) contend that financial planners and advisors exhibit various psychological and cognitive biases. In analysing the financial advisors losing clients, Pompian (2012) states that financial advisors do not fully comprehend the clients' financial needs and cannot engage with clients' psychology. The failure in effective engagement with the clients yields poor relationships. Pompian (2012) suggests that the main reason for failing to understand the clients is the financial advisors' psychological biases. To attain a robust relationship between financial advisors and clients and produce optimum investment decisions for the clients, Pompian (2012) also suggest that financial advisors and planners need to understand their biases and give the best effort to manage these biases.

CURRENT PRACTICES IN MANAGING BIASES

As Sahi et al. (2013) note, understanding individual investment decisions also requires understanding the various behavioural biases associated with their decision-making. Financial therapy blends knowledge from financial planning and mental health services to better understand economic behaviour and implement interventions to improve financial and relational wellbeing. Stolz (2009) notes that more financial planners seek training to acquire skills and knowledge on preventing or decreasing marital discord from causing a financial plan to fail. Psychographic classifications are particularly relevant concerning individual strategy and risk tolerance. An investor's background, past experiences, and attitudes can play a significant role in decisions made during the asset allocation process. Literature identifies three models: a) Barnwell two-way model, b) Bailard, Biehl, and Kaiser (BB&K) five-way model, and c) Behavioural investor type by Pompian (2008).

Barnwell two-way model identifies clients into two categories, i.e. passive and active. Passive investors are defined as those investors who have become wealthy passively. In contrast, active investors are individuals who have been actively involved in wealth creation through investment, and they have risked their capital in achieving their wealth objectives. BB&K model classifies the clients into five groups based on investors' confidence and whether the investor is methodical, careful, and analytical in his approach to life or emotional intuitive and impetuous. Pompian (2008) identifies four

behavioural investor types. This categorisation scheme's objective, similar to BB&K and Barnewall, is to help advisers and investors better understand investors' behaviour. For an adviser or investor to diagnose and treat behavioural biases, they must first test for all behavioural biases in the client. Pompian and Longo (2005) explain how to plot bias type and wealth level information on a chart to create a "best practical allocation" or "best behaviorally modified allocation" for the client. However, some advisers may find this bottom-up approach too time-consuming or complicated.

The design and purpose of Robo advice are to provide automated and fast financial advice to the clients. It uses a set of rules and importantly avoids human interaction. Since it is not prone to have cognitive and emotional biases, it can provide optimal advice to its clients. The total amount of assets under management (AUM) in the Robo-advisory segment equals USD 1,790,692,541million in 2022 globally (Robo Advisors, 2022).

Financial DNA started in 2001, is an online system using behavioural insights to provide financial advice to clients. This system argues that traditional risk profiling processes are insufficient to fully grasp how clients make decisions and importantly circumvent the biases. The Financial DNA can discover all dimensions of a client's financial personality. It also unveils the client's automatic decision-making biases. It has been used in 50 countries over ten languages. In another example, Vanguard, a financial advising firm, offers a platform that includes a combination of Robo technology and human advice and has been widely successful in drawing attention from clients. Another Robo-investing pioneer, Betterment offers options where clients can interact with a human advisor and a platform that allows human advisors to use Betterment's platform for their clients. However, Betterment's Robo-advisor is mainly limited to recommending the optimal portfolio for the customers and automating the investment process to save time and avoid human clerical error. Since Robo-advisors are a class of financial advisors with minimal to no human intervention, specific concerns plague an investor when availing these services and platforms (Phoon and Koh, 2017). As of yet, Robo-advisors have limited capability in the financial advising industry. It is mainly involved in forming an efficient portfolio; executing trading based on market timing. Based on the above literature and framing, we now aim to propose how AI can successfully intervene in reducing biases by financial planners. We argue how we can minimise the physiological and other reasons for biases by the intervention of AI and how this can address the root causes of biases.

REDUCING BIASES THROUGH AI

Literature identifies that when people need to make financial decisions, they face difficulty devising rational approaches. In the decision-making process, they require considering uncertainty coupled

with the abundance of information. Individuals use mental shortcuts or heuristics to arrive at conclusions to circumvent these problems. Hence, the human mind lacks optimisation for taking optimal financial decisions. We propose that AI can mitigate the issues relevant to cognitive biases to consider this scenario. Before addressing the solution, we will reflect on the nature of the cognitive biases, i.e. systemic loopholes in the decision-making process leading to biases.

When financial planners use numbers, mathematical modelling, and probability estimation, they assume that their financial decisions for the clients are optimal. However, the financial planners can have cognitive illusions (Reeves and Pinna, 2017), make mistakes in understanding the complex mathematical process to update probabilities, and become victims of a false understanding of association among the variables (Korteling et al., 2018). Importantly, in cognitive bias, individuals presume they act rationally and logically; however, they use faulty reasoning, apply spurious variables, and use the wrong information set. Considering the nature of the cognitive biases, possibly classified into belief perseverance bias and information processing bias. A belief perseverance bias appears when the financial planners stick to their previously held beliefs without sufficient justifications. Financial planners often exert cognitive dissonance in belief perseverance bias when new information is discordant with current views or opinions. The belief perseverance biases include hindsight, confirmation, representative, and the illusion of control bias. In belief perseverance biases, e.g. confirmation and hindsight bias, the financial planners have selective retention ignoring information inconsistent with existing belief, and selective exposure focusing only on the information of interest. On the other hand, information-processing bias occurs when financial planners use information irrationally or unreasonably. In this case, the financial planners tend to apply faulty reasoning while processing the decision-making process information. The processing biases include anchoring and adjustment, mental accounting, framing, and availability bias.

In managing biases, the literature suggests that we need to 'moderate' the cognitive biases since this type of bias stems from the subconscious mind and faulty reasoning (Pompian, 2006). Moderation suggests reducing the impact of biases through better information and education. Although financial planners are aware of these biases, it is not easy to manage since it requires human effort. Hirshleifer (2001) contends that human effort involved in processing information and updating belief is inversely correlated with new information processing. Since the sub-optimal financial decisions due to cognitive biases are difficult to manage efficiently, AI has immense potential. AI augments human intelligence. We argue that AI will retain human interactions and, at the same time, manage human biases. It helps make data-driven decisions. In its report, McKinsey & Company, a world leading consulting firm defines AI as "the ability of a machine to perform cognitive functions we associate with human minds,

such as perceiving, reasoning, learning, and problem-solving” (Chui et al., 2020, pg.1). By offering machine learning and deep learning, AI goes beyond the basic automation process to complete more complex tasks. AI provides client-facing tools, such as self-service on boarding, portals and interactive dashboards. However, it also goes deeper, targeting both its operations and the entire ‘wealth management value chain’. This model unlocks new levels of client-centricity, organisational efficiency, and cost savings by targeting both front- and back-office functions and infusing AI within the wealth management process.

We now investigate two common biases in financial planning scenarios: confirmation bias and hindsight bias, identify the physiological reasons why these two biases occur and provide AI’s linkage in dealing with these cognitive biases. Confirmation bias influences people to consider only new information if it complies with their existing belief and discount if it contradicts. This biased nature relies on selective exposure, perception, and retention of a specific type of information. Gilvich (1993) contends that financial planners are susceptible to confirmation bias since it is easier to deal with cognitively. As physiological reasoning, this bias can arguably link to individuals’ attitudes to accept information according to their perception and understanding of what they already know. There could be a possibility that there is a connection of this confirmation bias to the compatibility principle (Korteling et al., 2018). The compatibility principle suggests that human brains do not store any information without associating it with existing knowledge. It implies that when new information hits the human mind, its acceptability or adaptability depends on its compatibility with existing values. In understanding the reason for confirmation biases, Korteling et al. (2018) suggest that humans see, recognise, and accept any new information according to their perceived mindset, understanding of the situation, expectations, and values. Nickerson (1998) contends that humans tend to focus on and interpret information in a way that confirms their existing perception, which ultimately yields a confirmation bias. Human brains cannot keep the information separately, and it regularly applies compatibility principles to evaluate information. Therefore, the financial planners place greater weight on information that supports their beliefs in estimating probability. This biased approach, placing higher weights on confirmatory information and ignoring or placing no weights on negative information, leads to an under-diversified portfolio for the clients by the financial planners.

To address this confirmation bias, AI can assist through a neural network. In this event, AI will work with the human mind and avoid the compatibility principle so that judgment happens independently. When a human mind struggles with accepting information as the existing belief does not endorse it, AI will enable humans to evaluate the information according to its merit without falling into confirmation bias. An artificial neural network is a collection of smaller units called neurons, which

are computing units modelled on how the human brain processes information. A group of neurons is named a layer, which takes in an input and provides an output. Any neural network will have one input layer and one output layer. It will also have one or more hidden layers that simulate the types of activity in the human brain. Hidden layers take in a set of weighted inputs and produce an output through an activation function.

This study suggests that the backpropagation within the neural network will enable the financial planner to overcome the confirmation bias. In a backpropagation process, an input vector to a resulting output vector through a model inspired by neurons and their connectivity in the brain. The model consists of layers of neurons interconnected through weights that alter the importance of specific inputs over others. Each neuron includes an activation function that determines the output of the neuron. In this case, its weight vector multiplies a function of its input vector. Computation of the output happens by applying the input vector to the network's input layer, then calculating the outcomes of each neuron through the network (in a feed-forward fashion). The computational error happens by comparing the actual output and desired output and then backpropagated to adjust the weights and biases from the output to the input layer. Figure 1 shows a backpropagation process using an artificial neural network. The system offers three layers: input layers (light green box), output layer (light blue boxes), and hidden layers (yellow ovals). The process shows that new information comes as inputs, and the backpropagation computes the output. The backpropagation process does not apply the compatibility principle when further information comes in; instead, it treats information independently. The neural network can appraise the acquired knowledge without any prejudice. Figure 1 shows three inputs, and there is no overlap among the information. So, there is no confirmation bias in this instance since the system does not evaluate new information based on perceived understanding about the same.

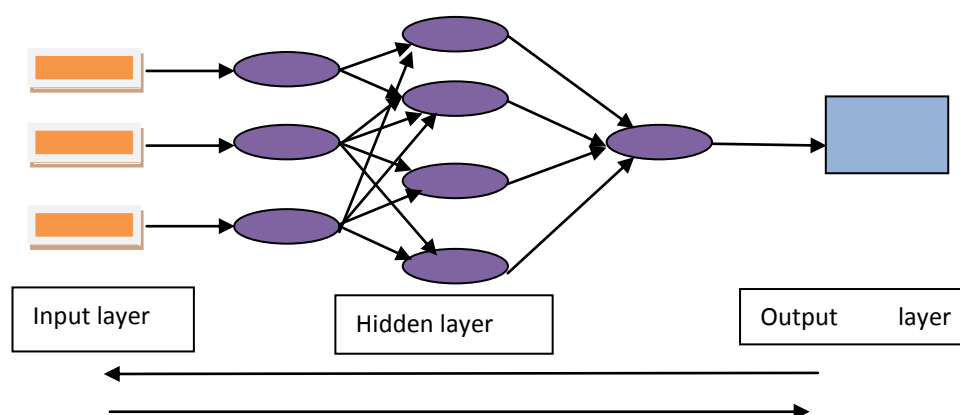


Figure 1: Backpropagation

The study focuses on hindsight bias and proposes how AI can manage this bias. Hindsight bias is information-processing bias with selective perception and retention aspects. The individuals find that past events, which already occurred, are more predictable than those that did not happen. People may see past events as having been predictable and reasonable to expect. Also, people tend to remember their future predictions as more accurate than they were because they are biased by knowing what has happened. Understanding the physiology of this bias, Korteling et al. (2018) link the hindsight bias to the retainment principle. The retainment principle implies that the human brain captures necessary and irrelevant information. It cannot ignore the information gathered from experience, which can be irrelevant as inputs for future decisions. Highlighting the reasons for the hindsight bias, Kosslyn and Koenig (1992) state that when the human brain perceives and processes information, it also retains the information, and it is difficult to erase or ignore. Therefore, this persisting effect of information influences human decision-making, yielding hindsight bias and suboptimal outcomes in financing decisions. Biased reasoning then occurs when irrelevant or deceptive information associatively interferes with this process. Pompian (2006) study identifies that the hindsight bias provides a false sense of confidence among financial advisors. In addition, this incorrect level of confidence is detrimental to attaining optimal decisions for their clients.

This study proposes that deep reinforcement learning can overcome hindsight bias using AI. In addressing the hindsight bias, the system needs to separate individuals' existing perceptions or understanding of previous information, as they do not influence the new set of information. Reinforcement learning judges actions by the results they produce. It is goal-oriented, and it aims to learn sequences of actions that will lead an agent to achieve its goal or maximise its objective function. Applying the features of AI's deep reinforcement learning technique, hindsight type bias is manageable. When the financial planners' experience dominates their future decisions, leading to sub-optimal results, the reinforcement-learning approach will allow them to maximise their objective function. Since this system is goal-oriented, it does not allow a hindsight type bias to interrupt in desired decision making by the financial planners.

IMPLICATIONS

Though Fintech has been successful, the thought of AI assisting financial planners is still in inception. Financial planning is a very critical activity which can lead to major profit or loss depending on the advice of a financial advisor. With the human machine interface, we can enhance the reliability of decisions taken. Both financial planners and investors can be assured of not being influenced by emotions and other biases that come into play while deciding on future investment. Moreover, the

decisions planned by planners can be verified according to AI data. The use of AI in financial decision making also opens new opportunities for programmers. The requirement in these programs may vary depending on organizations or financial planners who would prefer to take AI help in data analysis based on investor portfolio, market conditions, past investment and returns etc. Training data may also be fetched from target organizations to enhance program accuracy. In organizations, trainings have to be imparted until familiarization of the software. Though we are not sure of the acceptance of AI in decision making process both by planners and investors, the digitalization wave compels all sectors to adapt.

CONCLUSION

Behavioural finance and neuroeconomics research reveals that individuals are not entirely rational and susceptible to various biases. The physiology of the brain's decision-making process deters us from optimal financial decisions. The existing literature and evidence reveal that cognitive biases are a significant challenge for many financial planners. Our evaluation in the financial planning industry literature indicates two approaches: psychographic classification of clients and digitalisation of financial planning by adopting Robo-advice are taken to circumvent the behavioural biases for optimal financial decisions for the clients. However, they cannot be the ultimate companion for financial planners because of their inherent limitations. Robo-advice does not have human interactions, and it is not efficient enough to address most behavioural biases. This conceptual paper argues for a solution to this problem through AI technology. Specifically, AI-driven by data and algorithms assists in overcoming cognitive biases. Therefore, there is a greater need for financial planners to employ AI technologies to overcome cognitive biases in the financial decision-making process.

In demonstrating how AI can manage behavioural biases, we identify two common biases, confirmation and hindsight bias, and provide AI's linkage in dealing with these two biases. Regarding the confirmation bias, Korteling *et al.* (2018) suggest that humans see, recognise, and accept any new information according to their perceived mindset, understanding of the situation, expectations, and values. When the human brain receives a new piece of information, it does not keep it separately from other information; instead, it maintains an associative network. In the associative network, if the new information is not compliant and consistent with the existing information, the human mind rejects the latest information. To address this confirmation bias, AI can assist through a neural network. In this event, AI will work with the human mind and avoid the compatibility principle so that judgment happens independently. On the other hand, hindsight bias is an information-processing bias with

selective perception and retention aspects. The individuals find that past events, which already occurred, are more predictable than those that did not happen. People may see past events as having been predictable and reasonable to expect. This research proposes that the deep reinforcement learning of AI can efficiently deal with the hindsight bias. Deep reinforcement learning unites artificial neural networks with a reinforcement learning framework that helps software agents learn how to reach their goals. Reinforcement learning refers to goal-oriented algorithms, which learn how to achieve a complex objective (goal) or maximise along a particular dimension over many steps.

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BOOK OF CONFERENCE ABSTRACTS

THE IMPACT OF ANTICIPATED GUILT AND GUILT PRONENESS ON THE CONSUMER CHOICE BETWEEN DONATION TO CHARITY AND PURCHASE OF CAUSE-RELATED PRODUCT

Adomaviciute, Karina; Urbonavicius, Sigitas

Marketing department, Vilnius University, Vilnius, Lithuania

ABSTRACT

Donation to charity and purchase of cause-related products are two forms of pro-social behaviors that receive constant attention from researchers and businesses (Pracejus *et al.*, 2020; Wallace *et al.*, 2017). Though, attracting donors' attention to charity fundraising activities requires a detailed understanding of the personal factors impacting intention to participate in them.

Previous research had revealed that long-term characteristics together with appeals prompted by short-term emotional responses are important predictors of charity donation as well as purchase of cause-related products (He *et al.*, 2016; Yang and Yen, 2018). Guilt-generating appeals were among the mostly used to attract funds for charities (Basil *et al.*, 2008; Adomaviciute, 2016; Chang, 2011; Urbonavicius *et al.*, 2019). However, little is known about how these emotional appeals affect donation to charity and purchase of cause-related product. Even less is studied the impact of guilt proneness on two types of pro-social behaviors.

The objective of this study is to investigate how donors' proneness to guilt and anticipated guilt are influencing consumer's intention to donate to charity and intention to purchase cause-related product. The study included two steps: a pilot study and the main quantitative study. Online survey and non-probability (convenience) sampling were used for the main study. This study is based on a survey of 571 respondents from Lithuania.

Research results (based on SEM analysis) confirmed the positive impact of proneness to guilt and anticipated guilt on the intention to donate to charity as well as purchase of cause-related product. However, the impact of anticipated guilt was significantly stronger in the case of direct donation to charity and the impact of proneness to guilt – in case of purchase of cause-related product. These results allow to assume that purchase of cause-related product is more affected by long-term, internal consumer characteristics, where product related factors may play an important role as well, while donation intention is more exposed to ad's appeals.

The analysis enriches a scientific knowledge gap in the consumer choice between donation to charity and purchasing cause-related product. Most previous research analysed only one form of pro-social behaviors, that is: which factors determine either the donation to charity, or consumer intention to purchase cause-related product, though the two behaviors include certain similarities. This study

provides new insights into the knowledge about similarity between the donation to charity and purchasing cause-related products, confirming the importance of personality trait (prone to guilt) and emotion (anticipated guilt) in both instances.

Based on the research results managers are advised to use negative emotional appeals (such as anticipated guilt) to impact consumers' intention to donate to charity or to purchase cause-related products. However, these appeals are more effective to stimulate donation intention.

This study has provided important novel theoretical insights; however, it has few limitations that should be addressed as well. First, the sample of this study is one country based which does not allow broad generalizations. Second, it is limited to the influence of guilt proneness and anticipated guilt on the intention to donate to charity or purchase cause-related products using a specific social cause—a child. Even though children in need are among the most analyzed social causes (Basil *et al.*, 2006; Manzo, 2008), future studies may seek to support the findings by expanding this research to other social causes.

Keywords: guilt proneness, anticipated guilt, cause-related marketing, donation.

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DYNAMIC CAPABILITIES FOR SUSTAINABLE INNOVATION PERFORMANCE: EVIDENCE FROM ITALIAN MANUFACTURING FIRMS

Afeltra, Giovanna; Minelli, Eliana

School of Economics and Management at LIUC University, Castellanza, Italy

ABSTRACT

In the past decade, the scientific debate regarding sustainability and capabilities that allow organisations to survive and adapt in the face of change has attracted a great deal of interest (Afeltra *et al.*, 2021; Cillo *et al.*, 2019; Silvestre and Țîrcă, 2019; Elkington, 1999) for its essential role in the contemporary organisational strategy, value creation and sustainable competitive advantage. This transition has increased the attention on the organisational capabilities that deal with new social and environmental demands. Among them, dynamic capabilities (Teece and Pisano, 1994; Teece, 2014) enable an organisation's constructive change in response to changing environments and to achieve a sustainable competitive advantage which is hard to be unrevealed and imitated by competitors.

However, the debate on dynamic capabilities consists mainly of conceptual and theoretical discussions with a few empirical studies that test the hypotheses (Macher and Mowery, 2009). In particular, the set of dynamic capabilities that enhance environmental sustainability into product development to achieve eco-friendly advantage and create value have only been tenuously tackled. Only a few studies have tried to explain the link between environmental, social and economic goals and dynamic capabilities, encompassing not only ecological but also social and economic perspectives.

This study seeks to respond to the call for more investigations on how dynamic capabilities affect the value creation of firms through increased environmental, social and economic performance (Amui *et al.*, 2017; Bressanelli *et al.*, 2022). In particular, the attention is on those dynamic capabilities that embed a sustainability component to help companies recognise those resources and competencies necessary to innovate for sustainability (Dangelico *et al.*, 2013; Teece and Pisano, 1994). Leonidou *et al.* (2015) have identified a multifactor framework of Sustainable Dynamic Capabilities (SDC) which includes: organisational learning, relationship building, shared vision, cross-functional integration, and technology sensing/response (Leonidou *et al.*, 2015; Aragón-Correa *et al.*, 2008; Sharma *et al.*, 2004; Sharma and Vredenburg, 1998; Russo and Fouts, 1997)

Therefore, this study investigates whether by implementing these dynamic capabilities are able to achieve long-term strategic intent of environmental, social and economic sustainability, and the following hypotheses are proposed (see Figure 1):

Hypothesis 1: The presence of SDC positively impact on the sustainable innovation performance of firms.

Hypothesis 1a: The presence of SDC positively impact on the environmental performance of firms;

Hypothesis 1b: The presence of SDC positively impact on the societal performance of firms;

Hypothesis 1c: The presence of SDC positively impact on the economic performance of firms.

The measurement items used in this study corresponding to two constructs SDC and Sustainable Innovation Performance (SIP) constructs.

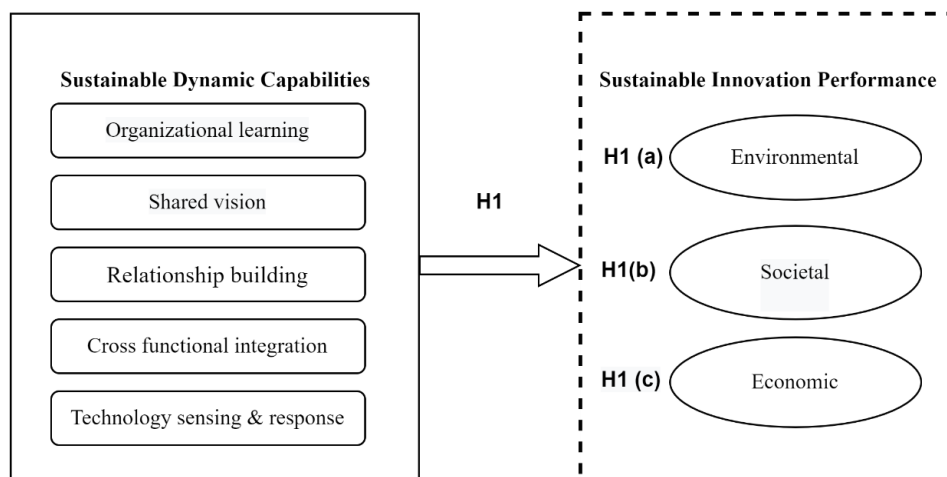


Figure 1: Theoretical framework

To test the hypotheses, we want to perform a non-hierarchical cluster analysis through the utilization of SPSS software package (version 22). Following the presented research framework, we apply k-means algorithms to find homogenous grouping of the observations. Subsequently, to understand how the resulting groups differ in their SIP, we use the one-way between-groups ANOVA with post-hoc tests (Tabachnick & Fidell, 2007).

The expected findings of the mentioned analyses should confirm that Italian manufacturing firms with a higher level of SDC perform better in terms of SIP, however we cannot yet predict which of the three dimensions of SIP is higher.

In terms of theoretical implications, this study aims to extend the literature by showing whether a higher level of SDC results in greater SIP. In addition, the expected findings might have some important implications for managerial practices by showing to managers which capabilities need more resources to improve the three dimensions of sustainable-oriented innovation performance.

Finally, this study contributes to the sustainability debate by investigating the role of sustainable dynamic capability as a multidimensional factor (organisational learning, shared vision, relationship building, cross-functional integration, Technology sensing & response) and value creation which balances the three pillars of sustainability, including environmental, social and economic dimensions.

Keywords: sustainability, dynamic capabilities, value creation, sustainable innovation performance.

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TERTIUS IUNGENS ORIENTATION OF FOUNDERS AND INTERNATIONAL NEW VENTURE OUTCOMES: A MODERATED-MEDIATED MECHANISM

Agnihotri, Arpita¹; Bhattacharya, Saurabh²

¹Management, Penn State Harrisburg, Middletown, USA

²Marketing, Newcastle University Business School, Newcastle Upon Tyne, UK

ABSTRACT

Leveraging the microfoundations theory of internationalization, in this study, we propose to examine the role of founders' *Tertius Iungens* Orientation (TIO), i.e., the tendency to bring people together and coordinate among others (Wei *et al.*, 2021) in the context of international new ventures (INVs). We propose that a founder's tendency to engage in *tertius iungens* oriented networking leads to better international knowledge acquisition by firms (Lyles *et al.*, 1996) that enhances the firm's (a) speed of internationalization (Acedo and Jones, 2007) and (b) international market performance. We also assert that this mediated relationship between the founder's TIO and internationalization speed and performance is moderated by the international orientation of the founder (Gerschewski *et al.*, 2015). We intend to test our hypotheses using survey data collected with a two-wave sample of new ventures in the UK. Our findings should add to the INV literature (Adomako *et al.*, 2019), where researchers have found firm attributes like knowledge acquisition to influence ventures' performance in international markets (Siachou *et al.*, 2021) and organizational efficacy (Belyaeva and Lopatkova, 2020). Our findings suggest that the founder's TIO enhances the knowledge acquisition ability of a firm that impacts not only performance but also the speed of internationalization.

Keywords: Tertius Iungens Orientation, International New Ventures, International Knowledge Acquisition, Internationalization Speed

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AI POWERED SOCIAL COMMERCE TECHNOLOGY AND CUSTOMER EXPERIENCE: A SYSTEMATIC LITERATURE REVIEW

Akinola, Paul Olusoji; Bilro, Ricardo Godinho; Loureiro, Sandra Maria Correia

ISCTE - Instituto Universitário de Lisboa and Business Research Unit (BRU-IUL), Lisbon, Portugal

ABSTRACT

Over the last 3 decades, the digital revolution has drastically transformed customer/user experience. Negroponte (1995) described this transformation as a shift from atoms to bits. Schmitt (2019) supported that, in the context of marketing atoms are fast moving consumer goods and their brands, made in factories, advertised through mass media, and sold in stores; bits are information, entertainment and interactive products, often produced instantaneously, promoted through social media and sold online. Artificial Intelligence (AI) powered technologies such as social commerce, Internet of things (IoT), Augmented reality (AR), Virtual Reality (VR), Smart technology, or digital payments technologies have the potential to revolutionize customer or user experience. Artificial intelligence (AI) is reshaping business, economy, and society by transforming consumers experiences and relationships amongst stakeholders and citizens (Loureiro, Guerreiro and Tussyadiah, 2020).

This research makes an overview of the current state of art about AI powered social commerce technology and customer experience. This systematic review employs the research articles published in the most relevant journals since 1993. As observed in literature, a long trail of theories tries to explain the relationships between the main constructs of customer experience and AI and its impacts on customer journey, impulse buying and loyalty (Loureiro, Guerreiro, Eloy, Langaro, and Panchapakesan, 2019). The objective of this study is to contribute towards a better understanding of the impact of AI powered social technologies on customer experience by (i) gathering a collection of impactful contributions from literature, (ii) discussing emerging trends and constructs, (iii) synthesizing the main findings, antecedents, constructs, and gaps in literature.

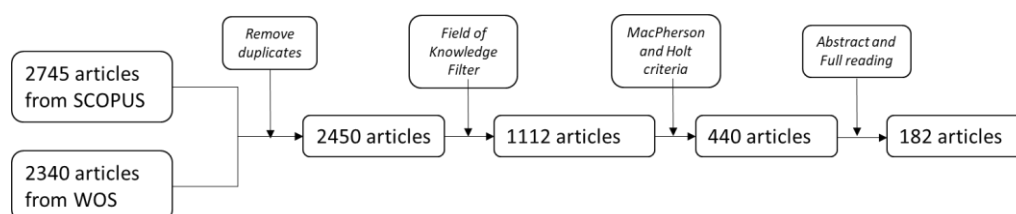


Figure 1. Process for Selecting final papers for analysis

Database search for peer-reviewed articles in English language was done across all related fields of Business, Marketing, Psychology, Technology and Social Sciences on Scopus/Web of Science and this was not restricted to any publication period. A total of 2450 articles were selected after merging databases and removing duplicates. For quality assessments, we matched each paper with

the Academic Journal Guide 2018 from the Chartered Association of Business Schools (ABS) ranking so that only papers featuring in ABS 4, ABS3 and ABS2 were considered, 182 papers resulted through abstract screening and full text reading. We adopted the following selection criteria from Literature (Loureiro et al., 2021): (i) article alignment with the research objectives; (ii) Optimal use and development of theory within current literature; (iii) reasonable theory-methods-data flow; (iv) significance of practical and theoretical contributions (see Table 1).

Table 1: Some selected studies on applications of AI

Study	Context/Method	Theory Base	Key findings
Huang and Rust (2018)	AI for Online retailing	TAM/Experiential Value	Presence predicts technology acceptance
Rese et.al (2014)	User acceptance of AI applications: online	TAM/UTAUT	TAM predicts acceptance of AI applications. Online reviews can be used to model Tam constructs.
Yaoyuneyong et.al (2016)	AI hypermedia print ads. Online and lab experiments.	Relationship and Experiential marketing	AI prints add are rated positively in terms of preference, informativeness and Novelty over traditional print ads.
Hopp and Gangadharbatla (2016)	AI advertising in automobile industry. Effects, Self-Efficacy beliefs	Novelty effects.	Novelty is negatively related to attitude towards AI
Dacko (2016)	Mobile AR applications for smart retail	Experiential value	AI is expected to lead to positive behavioral intentions in retailing: purchase intention & loyalty
Beck & Crie (2016)	AI virtual rooms for online and offline retail	Intrinsic and Extrinsic motivation	AI use increases offline and online purchase intentions
Poushneh & Vasquez- Parr-Aga (2017)	Impact of AI on retail customer experience	User Experience	AI positively influences the user experience.
Hoyer et.al (2020)	Impact of AI on customer experience and customer journey	Experiential value/User Experience	AI positively influences customer experience

In terms of theoretical foundations, the Technology Acceptance Model (TAM), Novelty theory, Intrinsic and Extrinsic Motivations, and Use of Technology theory (UTAUT) were widely used mainly via quantitative and qualitative methods. A trail of studies in literature examined the

relevance of artificial intelligence to customer experience, customer journey evolution and customer dynamics. For instance, the effects of AI powered technologies such as chatbots on customer online shopping journey (Hoyer et. al 2020) was well documented (see Table 1). Also, other technologies such as AR, VR and IoT have impact on how consumers search for products, evaluate alternatives, and make choices (Libai et al., 2020; Hollebeek, Glynn, & Brodie, 2014; Pucinelli et al., 2009) and on how customers interact with brands (Loureiro, Guerreiro & Tussyadiah, 2020). Two main types of concepts or typologies were identified as drivers of AI powered new technologies, in terms of customer journey and experience dimensions: Behavioural and Cognitive (based on two task areas: Repetitive and Non-Repetitive) (Hoyer et.al 2020). Various experience dimensions were also discussed in literature (Brakus, Schmitt & Zarantonello, 2009) established that brand experience can evoke different experience dimensions arising from brand related stimuli. Schmitt (1999) came up with five distinguished experiential modules called sense, feel, think, act and relate. The impact of AI powered technologies was conceptualized in literature as influencing the Customer/Shopper Journey as a transaction cycle (Lemon & Verhoef, 2016) three stages: Pre-transaction, Transaction and Post-Transaction and the accompanying AI Powered technologies (see Table 1).

With this research we aim to serve as a resource for both academic researchers and managers seeking to further understand the impact of AI powered technologies on customer experience and customer journeys. Technology plays a significant role in deepening every aspect of human existence, including the ways that brands market products and services to consumers. With more innovations, greater computing capacity, mobile devices and applications, and social media, more radical innovations are emerging that will shape current and future relationships with consumers and their brands.

Keywords: Artificial Intelligence, Customer Experience, Customer Journey, Social Commerce, Conversational Commerce, Loyalty, Impulse Buying, Augmented Reality, Mixed Reality, Virtual Reality.

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DO MEMES IMPACT BRAND COOLNESS PERCEPTIONS? EXAMINING HEDONIC VERSUS UTILITARIAN PRODUCTS

Aleem, Aihoor¹; Loureiro, Sandra maria correia¹; aguiar, marta²

¹ISCTE - Instituto Universitário de Lisboa and Business Research Unit (BRU-IUL), Lisbon, Portugal.

²ISCTE - Instituto Universitário de Lisboa, Lisbon, Portugal.

ABSTRACT

Digital platforms are one of the best tools to connect consumers worldwide (Nieubuur, 2021). Specifically, in the first quarter of 2021, Facebook alone had an active user base of 2.91 billion users, YouTube had 2.29 billion active users, while Instagram had 1.39 billion active users (Statista, 2021). Following Chuah et al. (2020), content is key in the digital environment. With such high numbers of online users, and the need for keeping them interested, memes became a frequently used content to interact with consumers. Internet Memes (IMs) usually take the form of animations, GIFs, videos, images, and image macros. As IMs are flexible, and able to relate to many expressions (e.g., humour, advice, irony, sarcasm), brands can easily integrate IMs in their strategy. Besides establishing a connection between brands and consumers worldwide, social media also allows users to check the latest trends, and most importantly, what is cool nowadays. Coolness reflects consumers' perceptions of a brand or product's quality, distinctiveness, or novelty (Sundar et al., 2014). Thus, being a cool brand and having cool content is becoming increasingly important to managers and practitioners. IMs are easy to understand, fun, "shareable" and can have a positive impact on consumer behaviour (Nieubuur, 2021). Brand Coolness (BC) also shows to have a positive impact on the consumer decision-making process (Warren et al., 2019). However, there is a gap in the literature concerning the relationship between IMs and BC perceptions. Although there is a variety of studies concerning BC effects on consumer decision making, to our knowledge, there is no literature establishing a connection between IMs and BC. Thus, the present study aims to understand if IMs influence consumers' BC perceptions, in the context of hedonic versus utilitarian personal beauty items. A survey was conducted, to assess the impact of utilitarian (Colgate) and hedonic (Dior) brands through IMs. A multiple linear regression was performed to predict brand coolness perceptions on hedonic versus utilitarian brands, with and without the meme.

Our findings suggest that, when not using a meme, the utilitarian brand (Colgate), is associated with the energetic and authentic characteristics. On another hand, when the brand uses the meme, the brand coolness perceptions are explained by the useful/extraordinary and original dimensions. As for the hedonic brand, when not using the IM, the brand (Dior) is associated with energetic, authentic, and iconic brand coolness dimensions. However, when using the IM, the hedonic brand is associated

with useful/extraordinary, energetic, popular, and subcultural dimensions. Our results are in accordance with the brand coolness and internet memes' literature: (1) brands do not need to be associated with the ten coolness characteristics, since the perception of BC differs from brand to brand, and across consumers (Warren et al., 2019); (2) IMs have specific characteristics (such as iconicity, humour, popularity, (Chuah et al., 2020), it was expected that introducing them would change consumers perceptions.

We also acknowledge the importance of the results to academics and practitioners. To our knowledge, this is the first attempt to analyse specific dimensions of brand coolness in the context of hedonic versus utilitarian products as reflected by IMs, contributing to the marketing and branding literature. As for managers, brands can use digital marketing channels to enhance popularity through IMs. As IMs can take many forms and is easily adapted, the tool is a cool way of advertising our products. Plus, it is easy to share between consumers, which increases chances of becoming viral through social media.

Keywords: Brand Coolness; Memes; Consumption; Internet; Digital Marketing; Hedonic; Utilitarian.

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THE CONTRIBUTION OF SECOND-HAND LUXURY TO SUSTAINABLE CONSUMPTION: A SECOND-HAND FASHION MARKET STUDY

Alves Tânia¹; Nobre, Helena²; Meneses, Raquel²

¹Faculty of Economics, University of Porto, Portugal

²Dept. of Economics, Management, Industrial Engineering and Tourism (DEGEIT), GOVCOPP Research Unit, University of Aveiro, Portugal

ABSTRACT

The linear business models of companies in the fashion industry imply environmental, climatic and social costs (Manshoven et al., 2019), which make sustainability one of the biggest issues in this sector. Consumers are becoming increasingly aware of environmental and social practices, opting for circular initiatives. These trends can represent an opportunity for luxury brands to achieve differentiation through social and ethical responsibility (Blasi et al., 2020). here is a greater investment of luxury fashion brands in sustainable practices, such as the use of innovative raw materials, ecological packaging and recycling or upcycling processes (Adıgüzel and Donato, 2021). Additionally, the second-hand fashion market makes the luxury industry more sustainable, as it extends the lifespan of luxury products and contributes to a more circular economy (Ducasse et al., 2019). The True-Luxury Global Insight 2021 study analyzed the evolution of luxury consumer behavior and found an increase in the percentage of consumers who sold second-hand (35%) compared to 2020. Also, the roles between sellers and consumers are changing. Online second-hand luxury good stores have changed the purchasing behavior of consumers (Turunen and Pöyry, 2019). Consumers are adopting new roles: in addition of being buyers, they are now also sellers of luxury brand products. Contemporary luxury consumers do not necessarily need to own a product forever; instead, they can be users during a limited product life cycle (Turunen et al., 2020). The growth of the second-hand luxury market is also related to the availability of high quality products in good order. Around 62% of second-hand items for sale have never been used before or used only three to ten times on average (Ducasse et al., 2019). As sustainable consumption and the second-hand market assume particular importance in today's luxury fashion trade, understanding consumers who buy second-hand products becomes increasingly important. This research aims, fundamentally, to explore the extent to which environmental issues can motivate the consumption of second-hand luxury products by Portuguese consumers and the role of luxury brands in this equation. In this sense, the main research question is "In what extend the environmental concerns of luxury fashion consumers influence their purchases of second-hand luxury items?". This study' also intends to respond to the following objectives: (i) to identify the ways and means used by Portuguese consumers in second-hand luxury fashion purchases; (ii) the main motivations of Portuguese consumers of second-hand luxury fashion and their motivations-to resell

the luxury brand products they purchase in the second-hand market; and (iv) to understand the importance of online commerce for the consumption of second-hand luxury fashion. Bearing in mind that the second-hand luxury products and brands, namely online, is a relatively recent business area in the Portuguese market, it still lacks attention from the literature. On the other hand, the link between the luxury product market and the sustainability of luxury brands is still an under researched topic. Thus, this study aims to raise new directions for future research. The study will be exploratory in nature, following a qualitative approach based on in-depth interviews. Interviews will be conducted with Portuguese consumers of luxury fashion, including second-hand luxury consumers from both physical stores and known online platforms and members of Facebook and Instagram buying and selling groups. Based on the literature, a set of initial themes will guide the empirical study. From the content analysis of the participants' narratives, other themes will be investigated, in a deductive-inductive approach. We intend to achieve at a set of categories of analysis for future research.

Keywords: Second-hand fashion market; Luxury brands; Sustainability; Consumer behavior

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A STRUCTURED LITERATURE REVIEW ON IMMIGRANT FEMALE ENTREPRENEURSHIP

Aman, Raushan

Martti Ahtisaari Institute, Oulu Business School, University of Oulu, Finland, Oulu

ABSTRACT

Worldwide, there is a positive trend in the number of self-employed and small businesses running female migrants. Nonetheless, female immigrant entrepreneurship has received rather scant attention from scholars compared to female entrepreneurship and immigrant entrepreneurship considered separately (Halkias & Caracatsanis, 2011). To the best of our knowledge, there has been only one systematic literature review provided on female immigrant entrepreneurship (ex., Chreim et al., 2018). Chreim et al.'s (2018) systematic literature review encompasses 54 peer-reviewed articles published between 1990 and 2015. Having noticed that and considering the growing interest of researchers in immigrant female entrepreneurship, we argue that there is a need to extend the systematic literature review on immigrant female entrepreneurship from 2015 and on. Kacar and Essers (2019) argue that analyzing the mutual relationship between the individual identities and structures will help us to better understand migrant women entrepreneurship. Hence, the aim of our research is to explore the micro-level individual factors, meso-level opportunity structure, and macro-level institutional environment of immigrant female entrepreneurs and create a typology of existing research based on the factors that shape female minorities' businesses.

Thus, the research question that we aim to answer is:

- What is the role of micro-level individual factors, meso-level opportunity structure, and macro-level institutional environment in female migrant-minority entrepreneurship?

Following Tranfield et al.'s (2003) literature review steps, and by using the search string - *immigration OR immigrant* OR migrant* OR ethnic OR ethnicity OR ethnicities) AND (woman OR women OR female OR gender OR businesswoman OR businesswoman) AND (entrepreneur* OR sme OR smes OR small AND medium AND enterprise OR small AND medium AND enterprises) AND (entrepreneurial OR entrepreneurship AND ecosystem OR ecosystems)* - we have reviewed the Web of Science, ABI/INFORM Collection (ProQuest), Scopus, Business Source Ultimate (EBSCO) databases. Once the duplicates had been removed using reference management software (Zotero), we had 153 papers published in peer-reviewed journals between 2015 and 2020 June. By screening the titles, abstracts, and keywords, we identified 20 articles that address women/female, immigrant/ethnic, and entrepreneurship/business aspects combinedly. We have then structured our findings based on methods, theories, constructs, etc., in the form of a table (Paul and Criado, 2020).

Our findings reveal that, following previous research patterns, most of the existing research employs qualitative research methods (life-story narratives, in-depth and semi-structured interviews) and consider the entrepreneurial experiences of female migrants moving from developing countries to developed countries. Examined papers employed mixed embeddedness theory (Bosiakoh and Tetteh, 2019), intersectional approach (Andrejuk, 2018; Cameron and Cananiss, 2018; Kacar and Essers, 2019; Wang, 2019), feminist entrepreneurial frameworks (Webster and Zhang, 2020; Webster and Haandrikman, 2017), ethnic entrepreneurship theories, family embeddedness perspectives (Azmat and Fujimoto, 2016; Biernacka, Abu-Rabia-Queder, Kressel, 2017), and translocational positionality theories (Villares-Varela and Essers, 2019). The findings manifest that migrant women's business establishment decisions stem from the conjoint effect of their family structure, gendered norms, migration length, education, and partner's labor market status. Furthermore, the intersecting characteristics of female migrants worsened their "double discrimination." To conquer the marginalization in the host country, some female migrants had to strategize (self-realization strategy, family defender strategy, survivor strategy), most often by being self-employed and building family firms. Both co-ethnic communities and the host country's business environment played an essential role in female immigrant entrepreneurs' exploitation of opportunities in the host country. Furthermore, the gig economy provided opportunities for female minorities with strict gendered norms and helped them realize their entrepreneurial ambitions from home (Webster and Zhang, 2020).

To sum up, extant literature has mostly separately addressed the impact of micro-level individual factors, meso-level opportunity structure, and macro-level institutional environment on female minority entrepreneurs and their businesses. Therefore, future research should analyze the dynamics between these three levels and explore the conjoint impact of those factors on female minorities' businesses. Future research should also explore the role of entrepreneurial ecosystems and ecosystem actors in female immigrant entrepreneurship (Gibbs et al., 2018; Scott and Hussain, 2019; Wang, 2019) and examine migrant women entrepreneurs' contributions to their ecosystems. It would also be interesting to see how intersectionality theory could be implemented to explore the opportunity exploration and exploitation of female minority entrepreneurs in their ecosystems.

Keywords: immigrant entrepreneurs; female entrepreneurs; immigrant female entrepreneurs; migrant women entrepreneurs; ethnic women entrepreneurs; structured literature review; host country.

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KEEP CALM AND BUY A LITTLE EXTRA - EXPLORING PANIC BUYING AS A DEVIANT BEHAVIOUR

Apostolidis, Chrysostomos¹; Brown, Jane²; Dey, Bidit³; Brown, David M.⁴

¹Durham University Business School, Durham, United Kingdom

²Newcastle University Business School, Newcastle upon Tyne, United Kingdom

³Brunel Business School, London, United Kingdom

⁴Newcastle Business School, Newcastle upon Tyne, United Kingdom

ABSTRACT

INTRODUCTION

During the COVID-19 pandemic measures to manage excessive and unnecessary stockpiling of essential products, including rationing, prioritising vulnerable consumers, and messages against over-buying (BBC, 2020; Hobbs, 2020). Nevertheless, the effectiveness of these measures has been questioned, since excessive purchasing reportedly continued months after the measures were implemented (Galanakis, 2020; Hobbs, 2020). This caused several changes in essential product availability and accessibility (Hall et al., 2020; Pantano et al., 2020).

The limited effectiveness of implemented strategies to mitigate the so called 'panic buying phenomenon', offers an interesting research topic. In this study we adopt a deviant behaviour lens to explore the drivers and motivations behind increased purchasing during crisis, to inform the development of more effective deterring strategies and policies.

LITERATURE REVIEW

Panic buying does not only oppose business policies, and public advice from organizations and governments, but it also goes against social norms, by ignoring the wellbeing of others in the community (Hobbs, 2020; Pantano et al., 2020). Existing literature classifies such selfish, opportunistic and anti-social behaviours, as 'deviant behaviours' (Apostolidis & Haeussler, 2018; Fullerton & Punj, 2004). From a marketing perspective, deviant behaviours are differentiated to other types of consumer behaviour, as they refer to consumer actions that violate regulations and/or social norms, and thus they are discouraged and held in disrepute by businesses and (most) consumers (Fullerton & Punj, 2004; Dootson et al., 2017).

This creates an interesting research topic, as deviant behaviours contravene the traditional perspective that consumers are functional and good-willed participants in an exchange interaction and therefore they can be challenging to understand and develop effective strategies to discourage them (Apostolidis

& Haeussler, 2018; Dootson et al., 2017). Particularly in the context of panic buying, scholars have called for further research that will enable the development of more effective deterring strategies (e.g., Prentice et al., 2020).

Researchers have used various theories, such as the Deterrence Theory (Grasmick et al., 1983), Social Learning Theory (Akers et al., 1989) and Durkheim's (1984) theory of anomie, to explore deviance as an outcome of rational, emotional and social factors. In our study we adopt a laddering approach, to combine deviance theories with Schwartz's (1992) values framework, to explore how deviant behaviours during a crisis may be motivated by a range of (internal and external) factors and underlying values. As such, we aim to contribute both to crisis marketing and deviant consumer behaviour literature, and to inform business and government practices.

METHODOLOGY

An online qualitative survey was used (n=406) to collect timely and in-depth information on UK consumer experiences of grocery shopping during the initial nationwide lockdown and social distancing period (March – May 2020). A hard laddering technique has been employed to identify any changes in grocery shopping patterns (e.g., quantities, frequency) and explore the motivations and drivers behind these changes (Veludo-de-Oliveira et al., 2006).

FINDINGS

Our findings indicate that lack of trust and weak community spirit can result in people attributing product scarcity and increased purchasing of others to 'deviant' panic buying, even without witnessing this behaviour first-hand. We name this phenomenon '*deviance pareidolia*', as weak social bonds in a community may lead to misinterpretation of facts and misperceptions of deviance. Moreover, although many participants acknowledge that they increased the size of their grocery shopping during the lockdown, only a small number argue the increase was driven by scarcity fear. Based on the results of our laddering analysis regarding consumer motivations and values behind their purchasing behaviours, we suggest that the term *Buying A Little Extra* (B.A.L.E) better captures consumers' perceptions regarding their increased purchases. Followingly, we identify three common types of B.A.L.E. behaviours in the marketplace.

Our findings also highlight that the majority of respondents rationalize their behaviours and neutralize negative feelings and (self-)blame using a number of neutralization techniques. This rationalization and neutralization of blame has a detrimental impact on the effectiveness of the developed strategies. Interestingly, deviance pareidolia plays an important role in this process, and can amplify deviance in

the marketplace, as it can trigger and subsequently sustain deviant behaviours, by providing a basis for neutralization and justification. As such it further affects the effectiveness of any countering measures. Our research offers a number of contributions. Firstly, by using the pandemic context, it contributes to the deviant behaviour literature, as it identifies the concept of deviance pareidolia and the substantial impact it has on deviance amplification, blame neutralization and the development of deterring strategies. From a practitioner's perspective, by using a laddering technique, our study explores in-depth the drivers and motivations behind increased purchasing during times of crisis, and uses this in-depth information to identify the neutralisation techniques used to justify different types of increased purchasing. This may assist in the development of effective strategies to counter excessive purchasing in the future.

Keywords: Consumer Behaviour, Panic buying, Deviant behaviour, Laddering, Crisis Marketing, Crisis Management Strategies

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BUSINESS LEADERSHIP IN JAPAN'S ENVISIONED SOCIETY 5.0: IMPLICATIONS FOR EUROPEAN SUBSIDIARIES?

Ashta, Ashok

Faculty of Foreign Studies, The University of Kitakyushu (UKK), Kitakyushu, Japan

ABSTRACT

Background: The EU-Japan partnership is expected to show continued growth in trade (Flor, 2021). Yet, European business culture is often perceived as incongruent to Japanese business culture (Ronen & Shenkar, 2013). Western textbook wisdom suggests a proclivity to servant leadership associated with leadership from the back in East Asian societies as opposed to the West where there are expectations of leadership from the front (Robbins & Judge, 2018). Such a concept of servant leadership initiated by Greenleaf (1977), now taught through university textbooks, is therefore no longer only theoretical, to the extent that students seek to practice it in their post-graduation workplaces. Researchers have studied antecedents and outcomes of servant leadership and the results are generally positive, such as enhanced organizational citizenship behaviour, better work-life balance, trust in the leader, and higher team efficacy. From a cross-cultural management (CCM) perspective, such research evidence suggests that servant leadership could be useful to attenuate local employee resistance when managing intercultural settings in international business subsidiaries (Baikovich & Wasserman, 2020), and indeed researchers find servant leadership's role in lowering employee negative behaviours. Servant leadership has also been studied in other wider alternative national cultural settings such as Indonesia and found to be effective.

However, though there is increased attention to servant leadership, in the context of the continued interest in international business to realize *inter alia* the United Nations Sustainable Development Goals, there is marked shortage of research in *servant leadership in intercultural contexts* (where intercultural refers to situations when persons from different cultures interact, cf. Adler, 1983). This general shortage of research is also found in the Europe-Japan dyad context and is problematic given the desire and broader interest in Europe to engage with Japan and further the continued importance of Japan in global business (Schaede, 2020). Addressing this shortage is important for practical societal reasons, too, because, as Japan seeks to advance to Society 5.0 (a vision for a human centered society that leverages Industry 4.0), the Japan Business Federation (referred to as *Keidanren* in everyday parlance) has called for, among other actions, developing human resources that can lead diverse teams. In this human-centered context, such a call by the *Keidanren* can be seen as a call for transformative leadership actions (rather than transactional), and therefore servant leadership could be a useful form of leadership to practice.

Purpose: Against the above backdrop, the aim of the current research is to contribute to development of debate on the form of Society 5.0 by taking a standpoint that business is a subset of society (Marcus et al., 2010), and answering research questions (RQs) such as: RQ 1) what form can servant leadership take in intercultural contexts? And RQ 2) at the microfoundation level, what are the values, beliefs and attitudes (VBAs) of European leaders that could be stressed to facilitate such human-centered leadership of diverse teams (i.e., European-Japanese diversity)?

Methodology: The qualitative study will use participant observation, interviews, access to archived data etc. to contextualize theory (cf. Welch et al., 2011) to international business situations. It will follow a social constructivist epistemology fitting the exploratory nature of the RQs (Knight et al., 2022).

Findings: (to be induced from the data, which will be collected in June to August, 2022)

Theoretical contribution (expected): By addressing a paucity in Europe-Japan intercultural leadership scholarship, the current research is expected to make a theoretical contribution by extending understanding of boundary conditions (Europe-Japan dyad as IB boundary) of servant leadership theory (Hambrick, 2007).

Implications for practice (expected): The research will provide insights for staffing and training for leaders of European business subsidiaries in Japan.

Implications for society (expected): The research imperative derives from a future Society 5.0, a form of society which is expected to be replicated/adapted globally. Thus, the paper contributes directly to realizing a human-centric society - even during the workday when employees embed in a business organization setting.

Originality: This cross-cultural research is original because the idea of Society 5.0 itself is very new (conceived as recently as 2015). Its value lies in sparking a new line of inquiry to be future-ready.

Keywords: Servant leadership; Europe, Japan, Society 5.0; qualitative research, intercultural

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ENTRY TIMING, INSTITUTIONAL EXPERIENCE AND PERFORMANCE

Asimakopoulos, Grigorios¹; Paraskevopoulou, Evita²

¹Escuela Politécnica Superior, Universidad Carlos III de Madrid, Leganés-Madrid, Spain

²Departemrento Economía de la Empresa, Universidad Carlos III de Madrid, Getafe-Madrid, Spain

ABSTRACT

Research on how incumbents respond to technological change has its origins in Schumpeter's (1934) predictions of capability "destruction" at the dawn of radical innovation. It has evolved to enrich our understanding of the competitive dynamics and performance implications mostly by comparing the timing strategies and characteristics of incumbent versus de novo firms under conditions of high technological and market uncertainty.

Moving away from the de novo-incumbent comparisons, the literature also finds that there are significant differences among incumbents that deserve more scholarly attention (Eggers and Park, 2018; Argyres *et al*, 2019). Prior studies suggest that whether incumbents will survive technological change and gain or retain performance advantages is mainly determined by pre-entry capabilities, adjustment costs, and the timing of their response (Bayus and Argawal, 2007; Argyres *et al*, 2019). However, understanding this differential ability of incumbents in adapting to technological change also requires recognizing specific nuances of different technological changes as antecedents that were once conducive to incumbent adaptation for a certain technological change might not always contribute to successful adaptation under different circumstances (Eggers and Park, 2018).

Executed mostly in contexts of innovation shocks, technology races and demand disruptions, past research seems to agree that incumbents are conditioned by their past and tend to adapt unevenly in the face of market and technological uncertainty. These conclusions are reached under the implicit assumption that *whether* to adopt the new technology and *when to enter the new market* are two exclusively internal corporate decisions and that non-adoption of the new technology remains optional.

Nevertheless, the proliferation of formal standards and the increasing demand for government policies and regulations (Brunsson and Jacobsson, 2000) alter incumbents' alternatives as new technology adoption becomes induced (or imposed) and is accompanied by institutional and time constraints in addition to technical specifications. These institutional conditions almost eliminate the *whether-to-adopt* decision, yet leave room for companies to decide on the *when*. The latter decision becomes more constrained in cases of regulated transitions from one technological generation to the next and when strategic national industries become liberalized as, for instance, the telecommunications industry, energy transmission lines, and aviation. While competing strategically

in industries shaped by technological standards and public intervention is quite idiosyncratic, past research has confirmed the relevance of timing effects in these environments (Schilling, 2002). The tension arising for business practice resides in the contradictory forces and demands towards the homogenization of practices on the one hand and room for strategic actions to achieve differential performance on the other.

The importance of contextual factors when it comes to entry-timing strategies and the need for analyzing the role of institutional actors for incumbents' adaptation have already been expressed in the literature (Eggers and Park 2018; Gomez *et.al*, 2016; Gomez and Maicas, 2011). However, so far, institutional factors have been considered as exogenous to corporate action, an assumption we revisit in this work given the institutionalized involvement of business actors in standard-setting processes. This focus also allows this work to contribute to prior work on pre-entry capabilities and entry timing by considering the accumulated experience that actors gain by participating and influencing rule-setting processes as an antecedent for entry decisions and performance. In this work, we refer to this antecedent as *institutional experience* and examine its implications for entry and performance in the presence of formal standards. Combining these insights, we revisit and expand entry- timing literature as well as research on pre-entry resources by looking at the *adaptation antecedents, timing strategies, and performance implications for incumbents in the presence of formal standards*.

In addition to its timeliness, the choice of standardized markets is justified by the fact that formal standards and regulations influence the levels of uncertainty and the rates of technology diffusion (David and Rothwell, 1996), two attributes that have long been considered as key determinants of entry decisions. As high levels of market and technological uncertainty have been considered the main drivers of incumbents' late responses to new technologies, a logical question to raise is whether the presence of formal standards alters the patterns of incumbents' entry strategies? Namely, do incumbents enter early into generational transitions where technical standards exist? And if so, what are the performance implications of such a decision? Answering these questions constitutes our first research task.

Focusing on standardized markets can also give rise to new findings with respect to the effectiveness of pre-entry capabilities and especially past experience. A large volume of literature confirms the relevance of different types of experience for incumbents' adaptation to technological changes and entry to new markets (see Eggers and Park (2018) for a review) and suggests that the type of technological change undergone can influence how and if the benefits of past experience unravel. We expect that the path-dependent and cumulative nature of standardization accentuates the importance of experience for entry decisions and testing this insight forms the second research task of this work.

The empirical setting for our study is the European mobile telecommunications industry following the transition from the second to the third technological generation (2G to 3G) and the introduction of the latter into the European commercial mass market.

Findings contribute to the open debates on timing effects and incumbents' adaptation (Zachary *et al*, 2015; Eggers and Park, 2018) and make the first step towards the exploration of the patterns and consequences of more "standardized business strategies" and government intervention in the coming (post-pandemic) years.

Keywords: technological change, standards, entry timing, incumbents, experience.

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USER ENGAGEMENT AND SUBJECTIVE WELL-BEING IN MOBILE HEALTH APPLICATIONS

Asimakopoulos, Grigorios¹; Asimakopoulos, Stavros²

¹Escuela Politécnica Superior, Universidad Carlos III de Madrid, Leganés-Madrid, Spain

²Social Sciences Division, Research Institute of the University of Bucharest, Bucharest, Romania

ABSTRACT

With the wide application of mobile health (mHealth) applications and digital technologies, user acceptance and engagement (Abdelhamid, 2021) are being integrated into users' health and well-being activities. Improving and sustaining users' engagement and motivation through mHealth applications or technologies is an emerging topic in the area of digital economy. Although originally conceived for fitness and running purposes, consumers are increasingly using mHealth applications for gaining information and understanding of their own health and well-being (Balbim, *et al.*, 2021; Luo *et al.*, 2021; Abdelhamid, 2021).

Existing literature contribute to our understanding of the innovative aspects of mHealth applications. However much of the research has mainly focused on the decision to adopt, and intention to use by applying the technology acceptance model (TAM) and its adoption components (Davis, 1989; Davis *et al.*, 1989; Venkatesh *et al.*, 2000); and much less on mHealth actual usage, engagement, and their impact on users' well-being (e.g. Venkatesh and Bala, 2008).

This research study aims to examine the relationships between continued use intention of mHealth applications, the Unified theory of acceptance and use of technology (UTAUT) model, subjective well-being, hedonic motivation, and user engagement. The data are based on a web-based survey completed by 162 users and analyzed through structural equation modeling. The results support the aforementioned relationships. Specifically, performance expectancy, facilitating conditions, focused attention, perceived usability, and reward are positively associated with mHealth application continued use. Furthermore, subjective well-being directly affects continued use of mHealth applications. Lastly, hedonic motivation plays a moderating role in the relationships between technology acceptance as well as user engagement factors with subjective well-being in the resulting model.

The study contributions are twofold: to improve effective user engagement and well-being with mHealth applications in the digital economy; as well as to assist designers in developing user interfaces and tools that support continued and motivated use of their mHealth applications.

Keywords: mHealth; digital economy; technology acceptance; user engagement; well-being.

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THE ENTREPRENEURSHIP READINESS MAP

Augurio, Alessandro ¹; Castaldi, Laura ¹; Iscaro, Valentina²; Rivetti, Francesca³

¹ Department of Economics, University of Campania Luigi Vanvitelli, Capua, Italy

² Department of Management, Marketing & Logistics, Alabama A&M University, Huntsville, USA

³ Department of Mathematics, Informatics & Economics, Università degli Studi della Basilicata, Potenza, Italy

ABSTRACT

Young Innovative Companies (YICs) have gained increasing attention in the last decade in entrepreneurship and management literature. Veugelers (2008) and Schneider and Veugelers (2010) initially drew attention on these new types of ventures. Generally, YICs combine three common properties: age, size, and innovativeness. Veugelers (2008) argues that YICs, unlike incumbents, are more inclined to exploit a newly found concept. Incumbent firms are more conservative either to defend existing profits or to avoid the need to rearrange the company to market radical innovations. This enhanced flexibility of YICs that do not have to preserve existing skills, profit or their market position makes them more inclined to introduce radical innovations and, in turn, to grow faster than other firms. Therefore, YICs are essential in providing the economy with innovative products, services, and processes as on the one hand they are naturally inclined to innovative ideas, and on the other hand, they boost follow-up innovation by incumbents. However, the survival rate of YIC is still 6-7% lower than non-innovative companies (Hyytinen et al., 2015), which makes it critical to define predictors and barriers of the innovation journey. While poor technology solutions are not even near the top ten common causes of start-up failure, poor decisions related to market, industry, marketing strategies, and finance are the main reasons why aspiring entrepreneurs fail. Hence, how to help YIC entrepreneurs succeed?

This work aims to develop “The Entrepreneurship Readiness Map” (ERM) as a support for the process of business idea development by YICs. The ERM is initially developed looking at the Italian context and built considering three dimensions. First, the innovation requirements by the Ministero Italiano dello Sviluppo Economico (MISE) to identify the Italian YICs (R&D expenses, high-qualified personnel, possession of registered patent or software). The second dimension concerns the success predictors of YICs. The considered predictors are chosen among the most recurring in literature such as the innovativeness of the proposed product, the network of firms, the type of funding, and the team diversity. Finally, the ERM includes the Technology Readiness Levels (TRL), a measurement system developed by NASA to assess the maturity level of a technology (Mankins, 1995). This should help innovative entrepreneurs assess the readiness of their companies to be launched, the likelihood of achieving good performance, and the main obstacles to remove.

The next step of the work will consist in applying this tool to a sample of Italian YICs to investigate the ERM capability to predict their performance, measured by looking at the turnover, jobs created, and mortality rate as suggested by the literature.

This work helps bridge the gap between entrepreneurship and innovation technology, to accelerate development and facilitate idea commercialization.

Keywords: Young Innovative Companies (YIC), TRL, Technology Readiness Level, Entrepreneurship Readiness Map, Entrepreneurship Processes.

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OUR COMMON FUTURE: CLIMATE CHANGE, CLIMATE RELATED FINANCIAL DISCLOSURES, TRANSITION RISK, PHYSICAL RISK AND SCENARIO ANALYSIS IN BANK SECTOR

Aversa, Dario

Department of Social Sciences and Economics, Sapienza University of Rome, Italy

ABSTRACT

INTRODUCTION

Climate change is a matter of urgency, a systemic risk that produces uncertainty, affects financial stability and manifests itself in financial impacts on banks and corporations. The investigation over the disclosures in sustainability reports of firms constitutes a way to face the problem and the dire consequences of this anthropogenic, multifaceted, non-linear, complex and interconnected phenomena of our time. In addition, disclosures and the provision of future affordable scenario lead to a better valuation of financial impacts on corporations, entail a better managing of the implications on the business and allow to focus on the effects relevant for investors, stakeholders and regulators. TCFD-aligned disclosures are a crucial part of managing these impacts and they are a means of inclusive capitalism and a way of communication for the stakeholders audience.

AIM

The aim of the paper is analyze sustainability report (EU non-financial reporting) disclosures of the listed bank on FTSE Italia All-Share index of Borsa Italiana through text analytics to assess (a) *how* and *whether* they disclose *transition* and (b) *physical risks*, (c) *how* and *whether* they conduct scenario analysis to tackle the urgency of climate change.

METHODOLOGY

The research combines *unsupervised learning* using Iramuteq (www.iramuteq.com) and technique of *information extraction* with Sas Viya (www.sas.com); the first part of analysis includes lexicometric measures, specificity and correspondence analysis, similarities tools and visual graphic representations, clustering with the Reinert method, the second part uses concepts and categories nodes in Sas Viya for Text Analytics pipeline adopting LITI coding language. For the conceptualisation and operationalisation of concepts are used the definitions and the articulation of *transition risks* (*policy* and *legal*, *technology* and *market*), *physical risks* (*acute* and *chronic*) and *scenario*

made by the Taskforce on Climate-related Financial Disclosures (TCFD) that was launched at the Paris COP21 in 2015 by the Financial Stability Board (FSB) and it is commonly recognized has the worldwide *benchmark* for financial and non-financial corporations; the TCFD in June 2017 also sets out a framework of four core elements (sometimes referred to as 'pillars'), supported by eleven recommended disclosures therefore the paper as a corollary verify the alignment to TCFD of the bank reports for the risk management and metric sections:

RESULTS

The key findings are the inadequacy and incompleteness of sustainability reports to disclose *forward looking* and firm specific informations for investors, stakeholders and regulators. The not common data information and the scarce completeness of them lead to incomparability and reduced transparency of the environment, social and governance disclosures. In addition, there is a pronounced opacity in the assessment of physical risks compared to transitional risks, which are, however, partially and selectively disclosed in an attempt to provide adequate informations in terms of risk management. The most of disclosures do not provide '*a complete and understandable picture*', increasing the potential for uncertainty in the markets and affecting financial stability. With regard to alignment to the pillars and recommendations of the TCFD only very few reporting categories are fairly well covered while others are not, with variation between companies despite some being quite progressive.

CONCLUSION

In conclusion, it is recommended that regulators and governments enforce in law TCFD disclosures by making them mandatory and aligned with this standard. Disclosing climate-related financial information on a *mandatory* basis allow to increase the quantity and quality of climate-related reporting , set out the emission reduction plans and sustainability credentials, help investors and businesses to better understand the financial impact of their exposure, price climate-related risks more accurately, overcome *short-terminism* to favor long-term strategies, increase *transparency* and more *comparability* on corporate sustainability reports, also improve *accountability*, and provide clearer disclosures to actual and potential investors, lenders and regulators

Keywords: climate change, transition risks, physical risks, scenario analysis, sustainability report, bank disclosures

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A NEW PARADIGM OF SENSORY MARKETING FOR THOSE IN NEED: EXPLORING NGOS' SUSTAINABILITY VIA INNOVATIVE MARKETING PRACTICES AND VIRALITY, DURING AND POST COVID-19 CRISIS

Avgeropoulou, Aikaterini; Melanthiou, Yioula

Business School, Department of Marketing University of Nicosia, Nicosia, Cyprus

ABSTRACT

The word viral carries a positive connotation and it is an extremely desirable outcome for marketing professionals', individuals' and for organizational marketing campaigns as well. The significance on accomplishing virality, stems from the fact that when something goes viral, it automatically becomes extremely popular, in a very short amount of time and to a very wide audience (Wilde, 2014, Arjona-Martín, Méndiz-Noguero & Victoria-Mas, 2020). One of the characteristics of virality is that it entails predicting and in-depth understanding of consumer behavior (Tellis et. al, 2019; Robles, Chica & Cordon, 2020). Virality is extremely desired in times of crisis, especially for Non-Governmental Organizations (hereinafter NGOs), as they have limited resources (Tellis et. al, 2019; Abbas, Ali, 2020; Reddy, Gupta, 2020). As literature reports, NGOs due to their nature and due to their role in society need to adapt and focus more towards digital sustainability. Online Sensory Marketing is an innovative marketing tool, which is defined as an groundbreaking marketing approach that can definitely affect or even alter consumer behavior (Rathee, Rajain, 2017, Petit et al., 2019, Quesenberry, Coolsen, 2019, Bhatia et al., 2021, Kim et al., 2021). Sensory marketing is identified as a state-of-the-art marketing tool with unexplored potential, which if applied with maximum efficiency and also if combined with insights from cinematography, it appears to be a very promising tool, in order to adjust to the "new consumer behavior", so as to be able to create viral campaigns. Online sensory marketing, if combined with specific cinematographic techniques, it can become a valuable tool for achieving virality, since viral campaigns are directly related with understanding consumer behavior and triggering consumer senses and emotions (Quesenberry, Coolsen, 2019, Reddy, Gupta, 2020, Kim et al., 2021). Literature reports, that via new technologies and the use of online sensory marketing, new opportunities can arise in order to control and to deliver enhanced and targeted sensory stimulation and multisensory interaction in virtual channels, reducing this way, waste of paper through printed material as well as pollution from for transportation. Thus, the digital nature of NGOs campaigns will enable them to be less constrained by geographic boundaries and to enhance scalability leading to higher impact and to reduced carbon footprint. Hence, through virality and the use of new technologies, NGOs can succeed something extremely valuable, and that is

maximum exposure to a vast audience without having increased production costs (Rollins, Anitsal & Anitsal, 2014; Robles, Chica & Cordon, 2020).

RESEARCH OBJECTIVES

ROB1: To identify through critically reviewing already existing literature, the link between online sensory marketing, cinematography and virality on YouTube.

ROB2: To identify the degree that Cinematography should be integrated into sensory marketing.

ROB3: To identify which are the specific cinematographic techniques to integrate into sensory marketing in order to create viral videos.

ROB4: To develop an evolved sensory marketing model in order to create viral video campaigns for NGOs.

RESEARCH QUESTIONS

RQ1: What are the main characteristics of online sensory marketing, which if stressed through cinematography, on a YouTube video, can lead to increased consumer engagement?

RQ2: To what extent can cinematography contribute to increase the audiovisual level off sensory marketing?

RQ3(a): Can soviet montage improve online sensory marketing's quality and lead to viral YouTube campaigns?

RQ3(b): Can coloring technique improve online sensory marketing's quality and lead to viral YouTube campaigns?

RQ3(c): Can extreme close-up technique improve online sensory marketing's quality and lead to viral YouTube campaigns?

RQ4: How could a re-visited sensory marketing model be differentiated according to the idiosyncratic needs of NGOs?

INITIAL CONCEPTUALIZATION

From Stimulus Organism Response (hereinafter) SOR model the main aspects, which will be further developed in present research, are stimuli categorization and the importance of emotion on taking decisions after the exposure to specific stimuli. Regarding Online consumer behavior model, the aspect which will be further expanded and incorporated in the new conceptual framework is the aspect of consumer character/ personality and the importance on identifying consumer-communities based on common character attributes, consumer skills (such as e-literacy) and consumer choices.

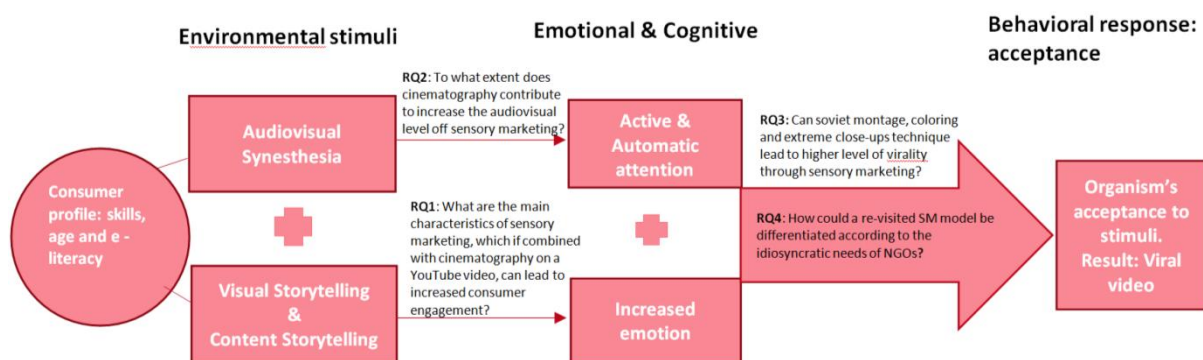
Regarding the Limited Capacity Model of Motivated Mediated Processing (hereinafter) LC4MP model the focus is on consumer' internal processing and its importance on stimulating active attention and recall. It is important to stress in relation to LC4MP model that the present research fully adopts its suggestion to put more attention towards consumer internal processes, aiming on stimulating both automatic and active consumer attention. The initial conceptual framework is developed by synthesizing different and compatible elements from the three models stated previously.

RESEARCH DESIGN & METHODOOOGY

General approach, research methods and justification

The approach that best serves the purpose of the present research is deductive qualitative analysis enriched with an inductive element. The inductive element is that during data analysis researcher will investigate whether an innovative category or subcategory can be identified. The methods employed for the present research are qualitative case study and netnography. The main concept of the suggested framework stresses the importance of placing the consumer and her/his character as well as individual preferences at the centre of marketing efforts. Both secondary and primary research are employed. In terms of secondary research, both systematic literature review and narrative review were conducted, analyzed, evaluated and combined. In terms of primary research, primary qualitative case study will be conducted through the application of specific steps of conducting Netnography, through in-depth interviews with semi-structured questionnaires and through participant observation events (Saunders et al. 2007).

ONLINE SENSORY MARKETING FRAMEWORK



The suggested framework stresses the importance of placing the consumer and her/his character as well as individual preferences at the center of marketing efforts. It suggests to group online consumer' communities with common characteristics, and with the aid of audio-visual synaesthesia and visual storytelling (adjusted to specific consumer profile), to trigger consumer' active and automatic attention

along with intense emotions, in order to lead to viral videos on social networking sites. The above framework suggests that if applied, the state of acceptance will be achieved for the individual in order to receive a stimulation with impact which triggers both attention and memory. Then consumer will transition to the next process which is action or at the least a reaction to the stimulus and ideally virality (Mehrabian, Russell, 1974; Chang, Eckman & Yan, 2011).

THEORETICAL, MANAGERIAL CONTRIBUTION & ORIGINALITY

As literature indicates, a plethora of NGOs were facing challenges even before the pandemic first appeared, since COVID-19's global presence these challenges are enhanced, resulting into significant lack of funding and to lack of stakeholders' and audience' engagement for many NGOs (Prasad, 2020; Lins & Aquino, 2020; Laato et al., 2020; Levano et al., 2020; Tallon, 2020). The theoretical contribution of the present research, points the identification of the unexplored link among online sensory marketing, cinematography and virality on YouTube, as indicated via systematic literature review. The focus on YouTube is exemplary as it is the most important channel as it is stated in literature (Berger, Milkman, 2012, Hietanen et. al, 2014, Petit et. al, 2019, Sample et. al, Finkler & Leon, 2019, Motoki et al. 2020, Lappas et al., 2020, Petit et al., 2020, Dwivedi et al. 2020, Avgeropoulou and Melanthiou, 2021, Chen, Wen & Silalahi, 2021). The practical contribution of the present research is that, via the application of specific techniques, combined in a particular way, NGOs can overcome various challenges with practical tools, in order to assist society during difficult times by increasing campaign' reach and reducing campaign cost, through the use of free social media platforms. As a result, the managerial contribution for NGOs stems from the identification of missing factors from online sensory marketing and from recognizing the role of audiovisual stimuli in order to provide also practical guidance with tangible tools for marketers. (Mehrabian and Russell, 1974, Moreira et. al, 2017, Hussain, 2019, Sample et. al, 2019, Petit. et al, 2020, Simmonds et. al, 2020, Sample et. al, 2020, Avgeropoulou and Melanthiou, 2021, Bhatia et al., 2021). The originality of the present research stems from the exploration of an innovative field, that of Sensory Marketing, and the creation of new knowledge, which is explored through researchers' unique perspectives, based on identified research gaps in literature. Originality will be succeeded also via primary research as described also in methodology section.

Keywords: Viral Marketing; NGOs' Sustainability; Online Sensory Marketing; New Technologies; Consumer Behavior; YouTube; Audio-Visual Appeal; Cinematography; Netnography.

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EXPLORING THE FACTORS THAT AFFECT THE CREDIBILITY OF VIRTUAL INFLUENCERS

Badiei Khorsand, Darya; Jiang, Liru; Vignali, Gianpaolo; Ryding, Daniella

Department of Materials, University of Manchester, Manchester, United Kingdom

ABSTRACT

1. RESEARCH GAP AND RESEARCH AIM

Virtual influencers are active computer-generated fictional characters who may or may not resemble real human beings (Arsenyan and Mirowska, 2021). Like human influencers, they have their own public persona which allows for interaction with other users (Hanus and Fox, 2015). They can be followed by social media users to view their content in various realms such as beauty, lifestyle and fashion (Arsenyan and Mirowska, 2021). Many luxury fashion companies such as Prada and Moschino have started partnering with virtual influencers to endorse their latest product releases and attend their fashion shows (Chitrakorn, 2021).

For any brand, the selection of an appropriate endorser/ influencer is key (Ohanian, 1990). According to the Source Credibility Model, the endorsers' positive characteristics which include expertise, trustworthiness and attractiveness, can positively affect the receivers' acceptance of the message (ibid). However, there is currently limited research on the credibility of virtual influencers. Therefore, it is crucial to conduct research on them to get an in-depth understanding of the factors that affect virtual influencers' credibility if brands are to start and/or continue working with them as a part of their (influencer) marketing strategy. To fill this gap in knowledge, this paper aims to explore the factors that affect the credibility of different categories of virtual influencers on social media platforms using the Source Credibility Model. The primary target for this research is Generation Z consumers as influencers are currently the most followed by them (Statista, 2021).

To achieve the research aim, the researchers will first conclude the key categories of virtual influencers currently existing in the market, for instance, those who resemble real human beings, those who have more doll-like features, and those who resemble animals. This categorisation is key as Arsenyan and Mirowska (2021) found that virtual influencers who have more human-like features provoke more negative emotions in people compared to those with less human-like features. Next, they will identify the factors that affect the credibility of each category by building on extant literature using primary data. The data collected will be analysed and used to develop a framework based on the Source Credibility Model to understand the factors that affect the credibility of different categories of virtual influencers.

2. METHODOLOGY

The researchers will take a mixed method approach to achieve the research aim. First, taking a quantitative approach, content analysis will be used to categorise 100 existing virtual influencers in the market by making use of the extant literature to develop codes and themes. Next, taking a qualitative approach, they will conduct semi-constructed interviews with 20 female Generation Z participants to identify the factors that affect the credibility of each category of virtual influencers based on the codes and themes identified. Lastly, the result of the interviews will be analysed using thematic analysis, which will then be utilised to develop a new framework by adapting the Source Credibility Model to virtual influencers.

3. ORIGINALITY AND IMPLICATIONS OF RESEARCH

Although the number of virtual influencers is growing, there are currently over 150 of them in the market (Chitrakorn, 2021), the research on them is rather limited. As relatively new phenomena, it is crucial to conduct research on them to understand the impact they could have in the influencer marketing industry, and their implications for all stakeholders such as brands, consumers and regulators.

This paper aims to fill this gap in knowledge and develop a framework to understand the factors that affect the credibility of different categories of virtual influencers. It will have theoretical contributions to academia as it develops a new framework by building on an existing and commonly used theory, the Source Credibility Model, which could be used by academics and researchers in the future who wish to understand and explore this topic further. Additionally, this paper will have managerial contributions to the industry as it provides valuable insights for virtual influencer creators who can use the results of this study to make virtual influencers more credible endorsers. Furthermore, it will provide valuable contributions to brands who wish to incorporate virtual influencers in their marketing strategy by utilising the results of this study to inform their decision on the virtual influencers they work with in order to get the optimal results from their partnerships.

Keywords: Virtual Influencers, Influencer Marketing, Source Credibility Model

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**“TELL ME WHAT YOU EAT, AND I TELL YOU WHAT YOU ARE”:
INVESTIGATING THE IMPACT OF ENTOMOPHAGY ANTECEDENTS ON
WILLINGNESS TO EAT INSECT-BASED PRODUCTS**

Bargoni, Augusto; Giachino, Chiara; Santoro, Gabriele

Department of Management. University of Torino, Turin, Italy

ABSTRACT

The increased awareness towards climate change, the welfare concerns over the livestock industry and the rapid growth of global population has led many cutting-edge food companies to focus their research and development interests in alternative proteins sources (Onwezen *et al.*, 2021). Extant literature, in the domain of biology has proved the beneficial effects of entomophagy, hence the practice of eating insects (Van Huis *et al.*, 2013). In fact, proteins are an essential nutrient in the diet of many live beings (Sexton, 2013) and entomophagy is increasingly seen as a potential solution to provide them in a sustainable way (Hermans *et al.*, 2021). However, scholars have focused their attention on entomophagy in a fragmented manner: they investigated which are the antecedents of consumption and their relation to consumer scepticism (Koch *et al.*, 2021) and they deepened the effects on brand equity or on sensory expectations for consumers (Cicatiello *et al.*, 2016; Mishyna *et al.*, 2020).

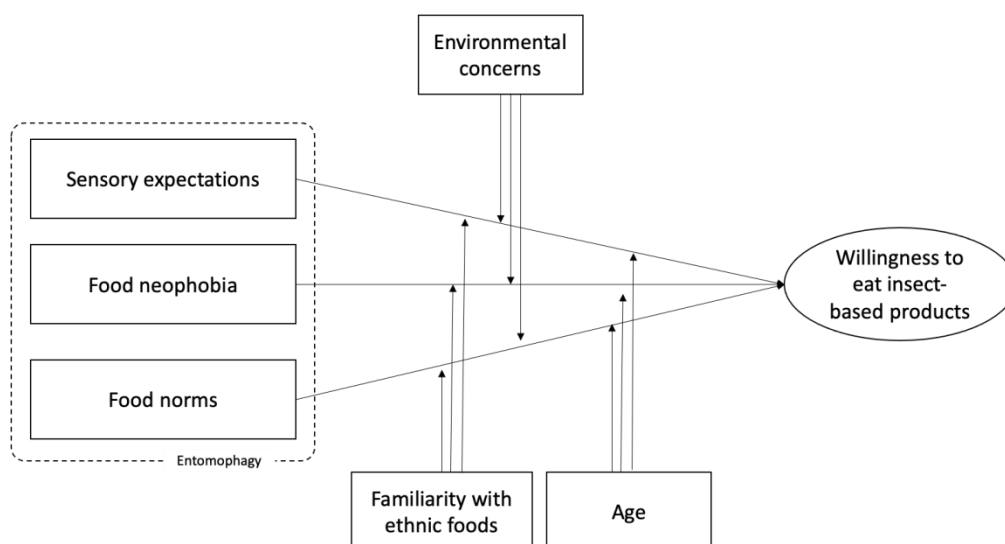
With this research we aim to fill the gap for an empirical investigation that holistically takes into consideration the antecedents of entomophagy and their impact on willingness to eat insect-based products. To do so we intend to leverage PLS-SEM to measure the positive or negative moderating effect that familiarity with ethnic foods, environmental concern and age have on the relationship between sensory expectations, food neophobia and food norms and the willingness to eat insect-based products (see Figure 1). Sensory expectations are a key antecedent to the willingness to eat insect-based food as the sensory aspects concerning texture, taste and appearance determine the willingness to eat insect-based products (Marquis *et al.*, 2020; Wendin and Nyberg, 2021). We hypothesize that positive sensory property expectations would significantly increase the willingness to eat insect-based food. Food neophobia has been defined as the tendency of the individual to avoid unfamiliar foods (Gómez-Luciano *et al.*, 2021). Recently, many studies have indicated that food neophobia as an important predictor in understanding consumer willingness to eat insect-based food (Sogari *et al.*, 2019). Food neophobia is fuelled by a traditional and conservative food culture that leads consumers to reject new food. We hypothesize that food neophobia would be a significant predictor of people's willingness to eat insect-based food.

Food norms, are highly salient in any society as society dictates what is and what is not considered food (Koch *et al.*, 2021). However, if a food does not share significant characteristics with normal foods, consumers perceive it to violate their internalized norms and thus intuitively avoid it as the thought of consuming such foods elicits disgust. We hypothesize that food norms negatively influence the relationship between people's willingness to eat insect-based food.

Since insects are an unknown food for most people in the Western world, familiarity with ethnic foods has been recurrently highlighted as a determinant for the acceptance or the decrease of neophobia (Koch *et al.*, 2021), pointing to the importance of this familiarisation process to overcome feelings of disgust and fear (Barton *et al.*, 2020; Castro Delgado *et al.*, 2020; Chang *et al.*, 2019). Food exposure and testing insects as food might reduce neophobic reactions, which can in turn increase willingness to eat insect-based products.

This paper shall contribute to the extant literature by putting forward several theoretical and managerial implications. First, it shall provide a comprehensive perspective on the consumers' willingness to eat insect-based products. Second, we aim to contribute to the consumer behaviour literature by empirically uncovering which dimensions have a positive or negative effect on consumer intention to eat insect-based products and which dimensions act as moderators to this relationship. From a managerial perspective we provide companies, who are intentioned to commercialize insect-based products, useful insights on which lever could stimulate the willingness to eat insect-based products and which dimensions have a positive or negative moderating effect on that relationship.

Figure 1 Conceptual model



Keywords: Entomophagy; Consumer Behaviour; Food Neophobia; Sensory Expectations; Insect-Based Products.

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CSR RELATED INVESTMENTS IN FAMILY FIRMS: THE CORPORATE COMMUNICATION PERSPECTIVE

Battisti, Enrico¹; Nirino, Niccolò¹; Christofi, Michael²

¹University of Turin, Turin, Italy

²Cyprus University of Technology, Limassol, Cyprus

ABSTRACT

Family firms (FFs) are the most widespread model in the world to run business (Rondi et al., 2022). They play a key role in economy of the countries in which they operate, and scholars have always investigated how they operate and the value they have for the national and international economy (e.g. Covin et al., 2016; Deephouse and Jaskiewicz, 2013; Lude and Prügl, 2018; Wang and Hackett, 2016). In particular, with the increasing attention both from scholars and practitioners to the issues related to Corporate Social Responsibility (CSR), academics were trying to understand the dynamics that CSR activities have within the FFs (Cruz et al., 2014; Schellong et al., 2019). To ensure that CSR is perceived correctly externally, marketing has taken a leading role in this matter. (Luo and Bhattacharya 2006). It allows the company to communicate its social responsibility externally by influencing the image that stakeholders have of it (Sun and Govind, 2020).

However, CSR studies in family businesses have opened up several debates within the academic world. Some studies have underlined the differences between FFs and non-FFs CSR activities (e.g., Craig and Dibrell, 2006). One stream of research suggests that FFs are more socially responsible in effort to have a better reputation, which influences the image that stakeholders have of the business (Dyer and Whetten, 2006). However, there are some studies that suggest the opposite, i.e. FFs act more irresponsibly than non-FFs (Morck and Yeung, 2003), given the fact that families want to pursue their own interests in expense of those of other stakeholders, i.e. decreasing firm reputation. In fact, some studies have underlined that FFs are characterized by: (i) unfair compensation system (e.g., Chua et al., 2009); (ii) nepotism (e.g., Chen et al., 2021); (iii) gender discrimination (Jimenez, 2009); (iv) different treatments between non-family and family employees (Gomez-Mejia et al., 2003). Finally, some studies have also shown that there are no substantial differences between FFs and non-FFs (Adams et al., 1996).

Based on the heterogeneity of these studies, and the needs to understand in more detail an ever-changing phenomenon, the aim of this research is to extend the evidences of Dyer and Whetten (2006) and Cruz et al. (2014), investigating the role of corporate communication in achieving higher CSR outcomes in family firms (FFs) than non-FFs. This study moves away from the two studies mentioned

above for two main reasons: first it considers ESG scores from Refinitiv as measures of CSR outcomes (Battisti et al., 2022; Nirino et al., 2021), while previous studies used KLD and CSRHub measures. Adding a third measure allows to reinforce the analysis, while considering a different period, confirming or obtaining new evidence that may need future analysis. Second, the theoretical background on which this study is based does not consider only family business and CSR but contextualizes the analysis from the point of view of marketing to enhance sustainable performance.

In particular, the overall objective of this work can be summarized in the following two research questions: (i) *Does being an FFs company have a positive effect on the outcomes of the companies' developed CSR activities?* (ii) *Is corporate communication through advertising capable of improving CSR outcomes?*

To achieve the purpose of this study, a sample of FFs and non-FFs companies listed in Europe was collected from 2018 to 2022. To test the research hypotheses and the hypothesized moderating effects, the analysis was conducted through the generalized least square (GLS) model. The results obtained highlighted a positive effect of FF on CSR outcomes. However, the models could not confirm a positive effect of corporate communication in improving these outcomes within FFs.

These original results allow to contribute both from a theoretical and managerial point of view. We have contributed both to the literature on family firms and on CSR (Dyer and Whetten, 2006; Cruz et al., 2014). In particular, we have enriched the evidence of a positive behavior of FFs both in environmental and social terms. This may suggest that these companies have a positive reputation towards their stakeholders which translates into greater support for the company. Moreover, it is also possible to contribute to the literature on marketing and on that branch that deals with the effects of CSR activities on costumers (Sun and Govind, 2020). In particular, on managerial side, at this moment the marketing and advertising area of the company do not seem able to contribute improving the outcomes of the CSR process, this means that companies should try to have better communication processes in place regarding environmental and social issues.

Keywords: Corporate Social Responsibility; family firms; investments; corporate communication.

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CROSS-CUTTING DIGITAL TECHNOLOGIES IMPACT ON THE WELFARE IN THE GLOBAL ECONOMY

Belyaeva, Zhanna; Loginovskikh, Anna

Graduate School of Economics and Management, Ural Federal University, UrFU, Yekaterinburg, Russia

ABSTRACT

Global transition to industry 4.0 is inextricably linked with the introduction of cross-cutting digital technologies in five main categories: big data, Internet of Things, artificial intelligence, blockchain, cloud computing, which enter the economy and business with completely different outcomes and impacts. The purpose of this work is to analyze the readiness and impact of cross-cutting digital technologies on welfare in developed and developing countries. Literature review of previous studies (Ahi, A. A. et al, 2021) have outlined that many companies in various industries have found the use of cross-cutting technologies in their business processes. Some studies (Ali, O., Ally, M., & Dwivedi, Y., 2020) on the examples from real companies reveal that there are industries in which the use of cross-cutting technologies has become traditional, as well as industries in which they are a breakthrough. Following the results of comparative analysis, we have outlined the opportunities created by cross-cutting technologies for achieving sustainable development goals, they concentrate (Longo, F., Nicoletti, L., & Padovano, A., 2020; Shah, K. et al., 2022).

The second part of the research is aimed to assess economic, technological and social factors impact on the welfare of various economies. The econometric analysis of panel data has been chosen as the main methodological tool, which will allow assessing the impact of the expected factors on the explained variable – GDP per capita in developed and developing countries. This approach seems to be novel in studying the impact of cross-cutting digital technologies according our literature review.

We applied econometric modeling through STATA software on the sample of 36 developed and 75 developing countries. The data for the study were taken for the period from 2012 to 2020 from the WorldBank database. This choice of the study period and countries is due to the availability of data. As a result, we received a total of 999 observations (panel) for research. Their choice is determined by the factors necessary for the introduction of cross-cutting digital technologies.

Econometric analysis allowed us to estimate the impact from economic, social and technological factors, which are necessary for the introduction of cross-cutting digital technologies.

	Indicator	Developed countries	Developing countries	Common model
Social	Access to electricity			0.0064714*
	Labor force with advanced education			0.0030388*
	Individuals using the Internet	0.0020286**	0.0015278*	0.0014093**
	Unemployment, total		-0.0072571**	-0.0043969*
Technological	Automated teller machines (ATMs)	-0.0004317*	0.001663*	
	Secure Internet servers	0.0143528***	0.0210263**	0.021582***
Economic	Computer, communications and other services export	0.0031812**		
	Research and development expenditure	-0.0698426***		-0.046848*
	Gross fixed capital formation	0.2528632***	0.0768074*	0.1614774***
	R-squared: within	0.859	0.818	0.755
* p<0.1 ** p<0.05 *** p<0.01				

Table 1. Results of final models

The general model shows the impact of access to electricity and Labor force with advanced education, which confirms that the level of scientific and technological development of the country plays a key role for the economic development of countries.

Indicator reflecting the number of individuals using internet is significant for all models. The number of Internet users shows the technological capabilities of the country, a high level means the possibility of introducing cross-cutting technologies, therefore projects aimed at public access to the Internet are required.

Difference in results for number of automated teller machines tells us that developed countries should reduce the number of ATMs, in favor of working on other technological innovations and infrastructure of banks, but developing countries otherwise should Increase the number of ATMs for more efficient operation of the banking system, which leads to economic growth.

The number of secure Internet servers is also significant in all models. Thus, it is important to provide a safe environment for economic growth in the context of digitalization.

In the model for developed countries, computer, communications and other services export is significant, and this may mean that in developed countries economic development depends on the level of digitalization and technology development.

Having assessed the impact of the development of cross-cutting technologies on the economic development of countries, it is also necessary to consider the readiness of countries to implement cross-cutting technologies. An additional method used in the study is the evaluation of the integral index, which illustrates the readiness to implement cross-cutting digital technologies in a sample of countries. The analysis was carried out for 25 countries over 9 years from 2012 to 2020. It uses the indicators selected as explanatory variables of the models plus additional variables. The results

outline leaders and outsiders of cross-cutting technologies application. For example, Singapore turned out to be a stable leader followed by Republic of Korea, Switzerland and Denmark. The lowest results were received by South Africa and India. However, index is increasing every year, which indicates positive dynamics in countries.

Based on the calculations of countries readiness to implement cross-cutting technologies, it can be concluded that the most favorable conditions have been created in Singapore for the development and implementation of cross-cutting digital technologies, such a trend has been maintained in the country since 2012. This is followed by the Republic of Korea, Denmark and Switzerland. Indonesia has moved from the lowest category to a satisfactory one, which indicates the development of the country. Countries such as UK, USA, Japan and Australia also show positive movement by growth of the index. If we follow the dynamics of the integral index for all countries, we can see that all of them have a tendency to improve (only Finland's index decreased in 2013 compared to 2012). Most of countries are in a satisfactory category, however in category "good" there is a big amount of countries, mostly developed ones. India and South Africa were among the backwards countries for the following reasons: low level of access to electricity and the spread of the Internet, mobile subscriptions among the population, low rates of exports and imports in the digital sphere, etc. Countries have shown weak results in almost all indicators, but the index is increasing every month, which indicates positive dynamics. Russia is classified as a group of developing countries in frames of current research and estimated as "satisfactory" in index calculations. We can conclude that for the future development of the country's economy, due to digitalization and development of cross-cutting technologies, it is necessary to invest more actively in digital technologies and the production and distribution of technical equipment such as servers and ATMs, expand access and use of the Internet by the population, as well as reduce unemployment, possibly increasing jobs and training in digital industries.

Generally the presented research outlines a novel empirical approach to estimate cross-cutting technologies implementations gaps and perspectives of related welfare in developing and developed countries adding up empirical analysis from WorldBank data.

Keywords: digital technologies, digital economy, developing, developed countries, welfare impact, SDG

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TRENDS AND PREREQUISITES OF SUSTAINABLE DEVELOPMENT IN INTERNATIONAL BUSINESS: BIBLIOMETRIC ANALYSIS

Belyaeva, Zhanna; Lopatkova, Yana

Graduate School of Economics and Management, Ural Federal University, GSEM-UrFU, Yekaterinburg, Russia

ABSTRACT

The synergy of sustainable development and digitalization is the fundamental trend of the world economy as well as a global task for the development that creates a relatively new strategic framework spanning government, business, and society. International business is now often defined as a key driver of sustainable development, facing the need to solve problems related to ensuring the interests of stakeholders and protecting the environment in the context of globalization, digitalization, and challenges of the 21st century (Belyaeva and Lopatkova, 2020). Thus, the main goal of this research is to determine trends and prerequisites of sustainable development in international business in the era of digital economy.

We have formed a research database including 4000 research articles and conference papers from 2010 to 2022 within the Scopus database to perform the literature review analysis and outline the main areas of research in the field of the general connection between sustainable development and digitalization. An extended text search query, comprising the title, abstract and keywords, consists of several blocks: sustainable development, digitalization, innovative technologies, information and communications technologies (ICT).

Statistical analysis of selected research papers shows a constant increase in the number of publications. A larger scope of interdisciplinary papers has been written in the last 5 years that indicates a growing interest in this area of research. A vast number of publications belong to Russian authors, researchers from China and Italy. The top 5 countries include the USA and Spain. Researchers from Germany, Australia, India, Malaysia, Sweden, South Africa, and the Netherlands also make significant contributions to the topic. The rest of the countries have less than 100 publications and account for 33% of the total number of publications.

The most cited research articles are also identified (Table 1). These papers were written by authors representing different countries and having publications in journals of several scientific fields.

Table 1 – Top five cited articles

N	Author(s)	Title	Year	Source	Number of citations
1	Hamari, J., Sjöklint, M., Ukkonen, A.	The sharing economy: Why people participate in collaborative consumption	2016	Journal of the Association for Information Science and Technology	1538
2	Pretty, J., Toulmin, C., Williams, S.	Sustainable intensification in African agriculture	2011	International Journal of Agricultural Sustainability	624
3	Lee, J.H., Hancock, M.G., Hu, M.-C.	Towards an effective framework for building smart cities: Lessons from Seoul and San Francisco	2014	Technological Forecasting and Social Change	462
4	Bibri, S.E.	The IoT for smart sustainable cities of the future: An analytical framework for sensor-based big data applications for environmental sustainability	2018	Sustainable Cities and Society	308
5	Verbong, G.P.J., Geels, F.W.	Exploring sustainability transitions in the electricity sector with socio-technical pathways	2010	Technological Forecasting and Social Change	246

For example, the authors Hamari, Schöklint, Ukkonen (2016) in their article consider the sharing economy, the development of which was facilitated by the spread of ICT, and the motivation of people to participate in collaborative consumption. The sharing economy is usually seen as an economic activity that can mitigate social problems by qualitatively influencing the reduction of overconsumption, pollution as well as elimination of poverty by minimizing the cost of economic coordination within communities (Hamari *et al.*, 2016). Also, the authors Lee, Hancock, Hu (2014) and Bibri (2018) explore sustainable development, considering this process in terms of the smart cities' development. The penetration of digitalization into many cities and regions of the world is necessary to optimize energy efficiency, minimize the negative impact on the environment, and coordinate public-private interaction (Bibri, 2018; Lee *et al.*, 2014).

Further bibliometric analysis was carried out in the VOSviewer programme that based on the clustering method. 18022 keywords were determined, considering the revision of the thesaurus and the exclusion of uninformative keywords to enhance the specificity of links between publications. For the analysis, restrictions were introduced for keywords that occur at least 5 times, thereby reducing the number of thresholds to 1290. Thus, the algorithm of the VOSviewer programme identified 9 clusters (see Fig. 1), each of which forms a different research area: actions to combat climate change, smart cities, education for innovation and digital technologies, civil society, eco-efficiency economic growth, education, digital service delivery, corporate social responsibility and new business models. The most recent research in the field of the linkage between sustainable development and digitalization is largely related to the effects of the Covid-19 pandemic, smart cities, circular and sharing economy, Industry 4.0

Keywords: Sustainable development, digital economy, digitalization, international business

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THE NEGATIVE EFFECTS OF THE COVID-19 PANDEMIC ON WOMEN'S WORKING LIFE AND WHAT CAN COMPANIES DO ABOUT IT

Binder, Bettina C.K.

School of Management and Engineering, Pforzheim University, Pforzheim, Germany

ABSTRACT

The COVID-19 pandemic brought unprecedented threats to many business and economies worldwide, disrupting people's lives and challenging existing business models. Women's working life had been particularly affected, which led to a widening of the gender employment gap. Looking at the developments determined by the pandemic, this paper develops a trend matrix and a strategic instrument, which should help companies retain and expand the pool of women employees.

INTRODUCTION

This paper examines some of the most recent reports and publications on the effects of the Covid-19 pandemic on women's market participation. It identifies some trends determined by the current crisis and finally it proposes a strategic instrument, which contains a range of actions that companies can take to mitigate the downward spiral registered by women's employment during 2020 and 2021.

LITERATURE REVIEW

Two years after the outbreak of COVID-19, the long-term consequences of the pandemic for the world's economy and for people's live are still difficult to assess accurately. The International Monetary Fund (IMF) estimated for 2020 a fall by 7% of the real Gross Domestic Product (GDP) at European level, the highest decline since the World Wide II, while the real GDP of the United States was expected to fall by 4.3% for the same year (IMF, 2020). Alon et al. (2020) speak of a "shecession" (she-recession) for the year 2020 and warn that the effects of the rise in women unemployment go well beyond the phrase "gender inequality" and that it can lead to "a deeper and more persistent recession". McKinsey & Company (2020b) makes clear that the crisis affects differently different people and that gender is just one dimension to be considered. For instance, according to data from the World Economic Forum (2020), in the USA since the start of the pandemic, 7% Hispanic, 5.6% Black and nearly 3% white women lost their jobs. For the USA this means a regress in women's employment back to 1988 levels (Gogoi, 2020). Aside from the aspects emphasized in the McKinsey & Company (2020b) report, such as childcare and home schooling responsibilities, family health, etc., the World Economic Forum indicates that women work in service industries, which were hit hard by the crisis. Wenham (2020: 6) signals too

that “[...] the impact of the (short and long term) socio-economic effects of COVID-19 fall disproportionately on women”. However, within EU the differences in terms of employment are not that big: there were some 15.603 million unemployed women and men in the EU as of August 2020, the unemployment rate for women being 7.6% and that for men 7.1% (Eurostat, 2020). Taking into consideration the evidence from the labour market with regard to women’s employment, this paper asks the following questions:

How can the effects of the Covid-19 pandemic on the working life of women can be mapped and how can companies mitigate the downward spiral registered by women’s employment during 2020?

METHODOLOGY

The aim and purpose of the research is to increase the number of women employed especially in management functions after the COVID-19 pandemic.

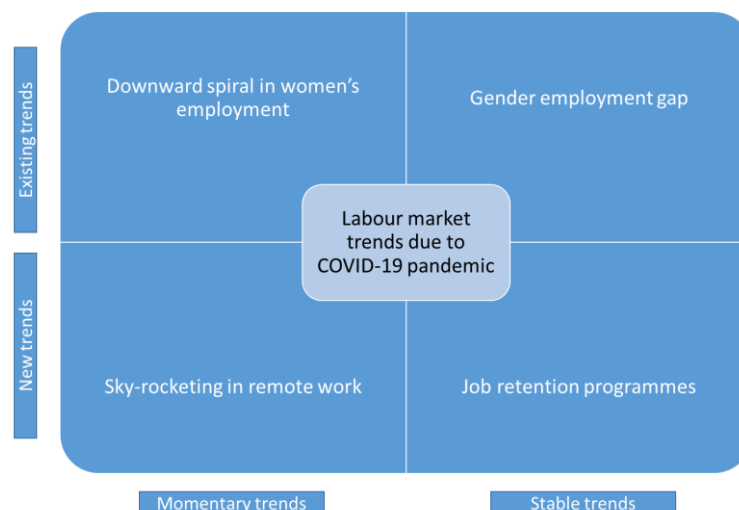


Figure 1: Labour market trends determined by COVID-19 pandemic

For the scope of the paper, the author designed based on the literature review a descriptive matrix (view Figure 1) of the trends currently on the labour market. These trends impact greatly companies, both in terms of challenges and opportunities. While trends such as the sudden increase in remote work, can be dealt with through short term policies and measures, those trend which have a long-term development such as the gender employment gap, need to be treated by companies with upmost strategic care. Drawing on the above matrix, we propose an eight-step process in a strategic performance cycle for value creation, which can help companies to tackle in the long-term the gender employment gap.

The following figure presents the strategic performance cycle.

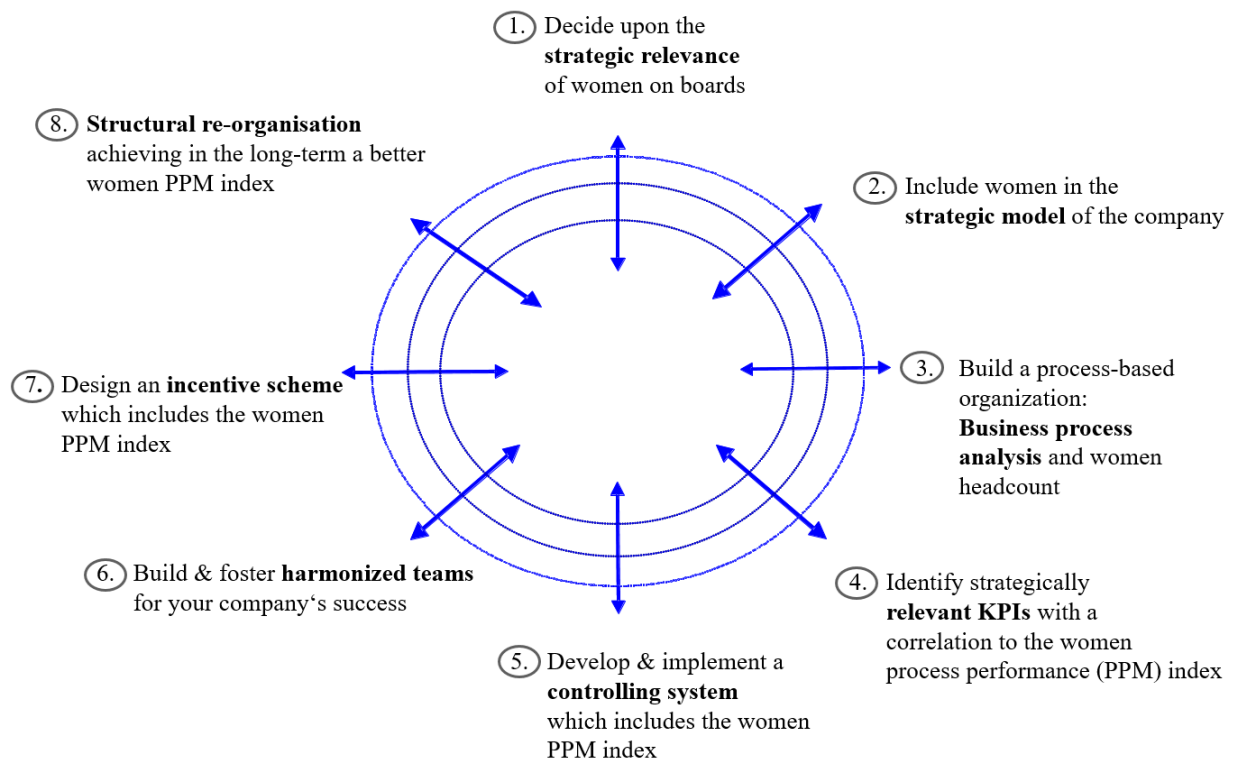


Figure 2: Strategic performance cycle in 8 steps (own creation)

FINDINGS - DEALING WITH THE GENDER EMPLOYMENT GAP

We propose an eight-step process cycle above (view Figure 2) through which companies can increase the number of women in their workforce and thus build a constant women talent pool for positions in upper management. The process starts by settling upon the strategic importance of women's presence in the workforce and ends with a structural reorganization of the company. In-between other measures has to be implemented such as establishing relevant key performance indicators, introducing a business process analysis, building mixed teams, creating incentives schemes for including more women, and implementing a control system for measuring the progress and developing a strategic model which builds (also) on women capabilities. The eight-step process should be understood as an overarching process, which builds a business case for more women on all company's levels and transforms women integration into a company practice. In this way, the gender employment gap can be also reduced.

DISCUSSION OF RESULTS AND CONCLUSION

By conducting a literature review of some of the most recent reports and articles, we showed how women's participation on the labour market have been affected by the current COVID-19 crisis and developed a matrix in order to illustrate some of the current labour trends. We also proposed the introduction of a process performance cycle at company level, which can help companies deal actively

with the gender employment gap. Such a process performance cycle is a necessary instrument because women's participation on the labour market have been affected by the current COVID-19 crisis more than men's participation (IMF, 2020, World Bank 2020, Alon et al, 2020, World Economic Forum , 2020 etc.). However, such a process alone cannot solve enduring phenomena such as cultural beliefs, stereotypes or the social roles women take in their families (Parker, Horowitz and Igielnik, 2019; European Commission, 2017; Binder et al., 2020, etc.), but at the same time, we provided evidence from the literature that women do have the skills and capabilities to master challenges just as good, if not better than men (Zenger and Folkman, 2019; ILO, 2019, McKinsey & Company, 2020a, Friedman, 2020, etc.). Their resilience in times of crisis, their communication skills, their empathy, their perspectives and other leadership traits, are important resources that companies should be aware of and build on them. Yet, there still are many visible and invisible barriers, which impede in some cases women's labour market participation, and in other, the advancement of their career (AllBright, 2020; McKinsey & Company, 2020b). We acknowledge that a change of mentality is needed and it could start from small things such as men recognizing that some of their achievements would not have been possible, if women would not have been there for them, taking a day off whenever their kids were ill, doing some extra work in the household, etc. One last aspect, which should be underlined, is the importance of how the topic of women representation in top positions is presented in different sources, especially media: emphasizing women's skills and capabilities and not just the gender dimension might actually change mentalities.

Keywords: Women Quota, Labour Market Trends, Diversity Management, Gender Employment Gap

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IMPLEMENTING CHANGES AFTER THE COVID-19 PANDEMIC: INCLUDING NEW KPIS IN NEW PROCESSES AND ADAPTED CONTROLLING TOOLS

Binder, Bettina C.K.

School of Management and Engineering, Pforzheim University, Pforzheim, Germany

ABSTRACT

The COVID-19 pandemic led to a decrease in women's participation on the labour market, their working life being particularly affected. In Germany for instance as of September 2020, the number of women in executive positions of the 30-DAX companies decreased, six women leaving the executive board in just one year (AllBright, 2020: 8). The gender employment gap worsened worldwide at all companies' level (McKinsey & Company report, 2020). The present paper proposes the introduction of new key performance indicators (KPIs), such as the women process performance development (WPPD) index and it shows how such KPIs can be integrated in company processes in order to force a structural and systemic change after the COVID-19 pandemic.

INTRODUCTION

The aim of this paper is to present an eight-step process aimed at measuring and managing women's presence and performance in companies. For this purpose, the paper builds upon existing literature on strategic management, diversity management, controlling instruments, etc. Thus, the paper contributes to an enhanced understanding of the business environment, enforcing structural changes and visualising the progress made not just by measuring the women quota in management and supervisory boards but also by integrating the proposed eight-step process into the controlling instrument e.g. of a balanced scorecard.

LITERATURE REVIEW

In 2011 Germany's largest listed companies, DAX 30, committed voluntarily to increase female representation by setting self-imposed targets. As the progress was slow, in May 2015 "The Equal Participation of Women and Men in Leadership Positions" law was passed, requiring that starting with 2016 a women quota of 30 percent in supervisory boards should be achieved by publicly traded companies (BMFSFJ, 2017). However, as mentioned above maintaining the women quota can be difficult, especially in times of crisis, such as the current ones. In the midst of the challenges posed by the pandemic (closed schools and kindergartens, ill family members, etc.), many women decided or have been forced by circumstances to quit their jobs, take a leave of absence, or shift from full-time to

part-time work, clearly bringing their career to a halt. Nonetheless, many scholars and institutions alike argue in favour of reducing the gender employment gap and plead for more women in decision-making positions. In this context, we formulate the following hypothesis:

By implementing KPIs such as the “women quota” and by integrating those in innovative controlling instruments and overarching company processes, enterprises can achieve in time a better gender balance on their boards.

METHODOLOGY

For the scope of the paper, the author proposes the introduction of a KPI called “women process performance development” (WPPD) index, which can be calculated as following:

$$WPPM = \frac{\text{Customer Importance} \times \text{Customer Satisfaction}}{\text{Process Cost Rate (Women Capacities)} \div \text{Benchmark Cost Rate (Women Capacities)}}$$

This KPI should increase over a long strategic planning period. A better position in comparison with the main benchmark competitor should be achieved for instance by improving the process cost rate via better recruitment of qualified women or improving customer experience. The WPPD index should be measured at least once quarterly within the following overarching company process:

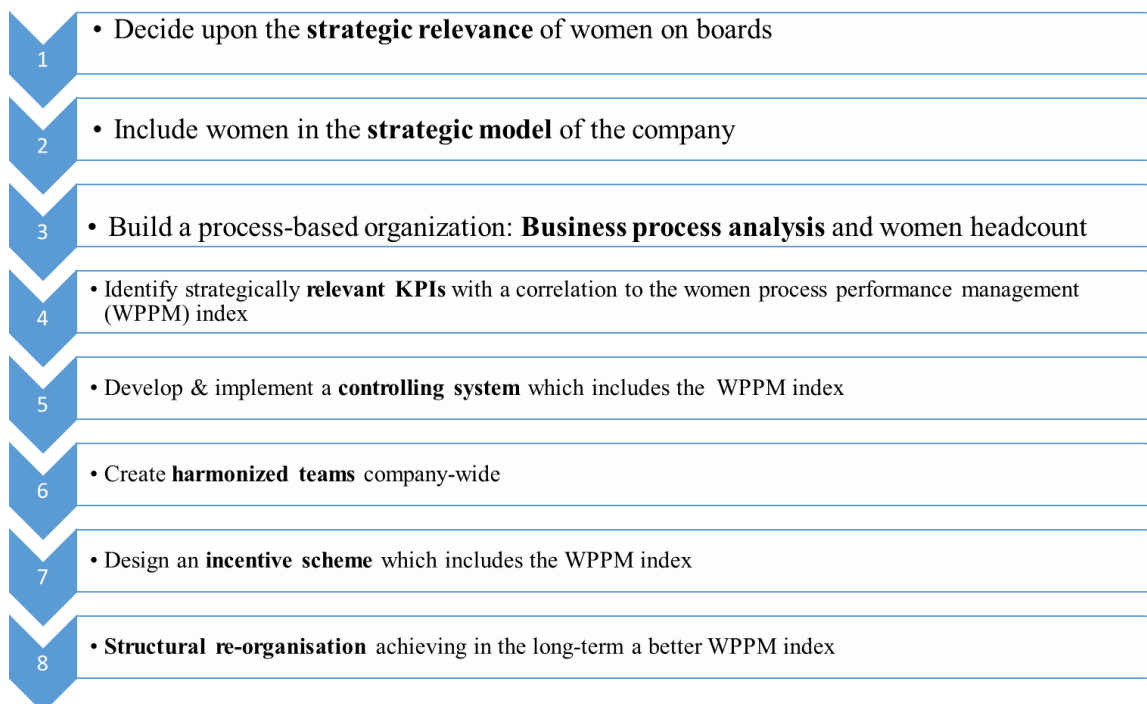


Figure 1: The eight-step company process aimed at increasing women presence at all levels of a company

FINDINGS

The proposed WPPD index can be successfully integrated into the balanced scorecard of a company as illustrated in Figure 2.

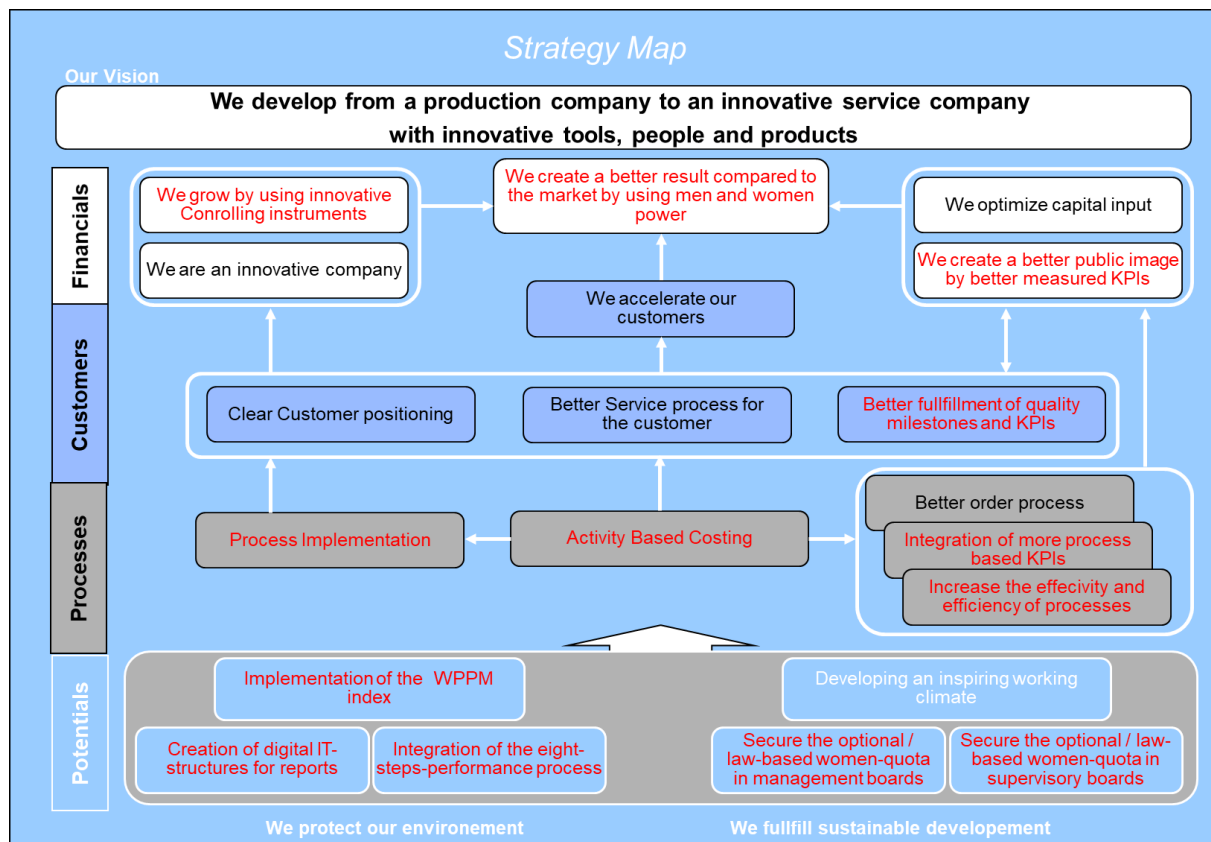


Figure 2: Strategy map showing the integration of the new KPI WPPD index

By supporting the strategy of a company through the “right” KPIs, the company’s success can be easily traced and measured. However, each company has to create or adapt its own strategy map, chose and implement those KPIs, which are relevant for the envisaged strategy and above all, make sound decisions after reflecting on the implemented processes and tools.

DISCUSSION OF RESULTS AND CONCLUSION

This abstract focused on the importance of women’s capabilities to contribute in times of crisis and beyond to better economic performance, better management and to a fairer world. By conducting a literature review of some of the most recent reports and articles, we showed how women’s participation on the labour market have been affected by the current COVID-19 crisis more than men’s participation (IMF, 2020; World Bank, 2020; Alon et al., 2020; World Economic Forum, 2020; etc.) and how women’s responsibilities and the workload to overcome the crisis increased for them (McKinsey & Company, 2020; Wenham, 2020, etc).The paper looked at the effects of the COVID-19 pandemic on women’s working life and suggested some new KPIs and their integration in new or adapted company

processes and instruments with the aim to improve the gender balance at all company's level. Their resilience in times of crisis, their communication skills, their empathy, their perspectives and other leadership traits, are important resources that companies should be aware of and build on them. Yet, there still are many visible and invisible barriers, which impede in some cases women's labour market participation, and in other, the advancement of their career (AllBright, 2020; McKinsey & Company, 2020). Only when companies ensure a significant talent pool of both female and male employees, women have a better chance of being appointed also in decision-making positions. The introduction of women quota in many countries aims at improving women's representation in top position, but the progress is slow and as we have seen, the progress can be easily undone by a crisis (McKinsey & Company, 2020). By developing a strategic instrument in our chapter, we hope to help companies take concrete steps into acknowledging the importance of women's capabilities and skills and this not only in times of crisis but also in non-crisis times. Therefore, the main contributions of this chapter are twofold: it reviews some of the most recent publications on the effects of the pandemic and it develops a model aimed at helping companies to increase the number of women in their workforce and benefit from the complementary skills of both male and female personnel. The implementation of the strategic performance cycle by companies can be a step towards more sustainable societies. If women are just as capable as the men in managing and leading, companies that do not acknowledge this fact, can only loose in the competition with other companies, which do that. The culture of a company plays also an important role and when for instance a pregnant woman is suddenly no longer taken seriously, as she was before, then this should rise some questions. One last aspect, which should be underlined, is the importance of how the topic of women representation in top positions is presented in different sources, especially media: emphasizing women's skills and capabilities and not just the gender dimension might actually change mentalities. However, there is no single best strategy or solution and companies must decide upon their own objectives and what instruments, processes and KPIs would best contribute to meeting their goals.

Keywords: Women Quota, Balanced Scorecard, Diversity Management, Key Performance Indicators (KPIs)

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THE INFLUENCE OF COMPETITION NETWORKS ON EXPORT PRICE ELASTICITY

Bolivar, Luis Miguel¹; Rodriguez-Puello, Gabriel²

¹School of Business, Universidad Tecnológica de Bolívar, Cartagena, Colombia.

²Instituto IDEEAS, Universidad Tecnológica de Bolívar, Cartagena, Colombia

ABSTRACT

When firms internationalize, they may select traditional and growing markets, and introduce themselves into a network of competitive relations. Some companies aim at crowded and mature markets where transaction and marketing costs are lower, while others aim at growing, differentiated and less traditional destinations in which they might have stronger positions. The results of these decisions produce a particular market structure and power relations that influences the way firms perform at dealing with international price shocks; however, the role of such structure and position remains to be accounted for in international pricing literature. The purpose of this article is to examine the competition network effects on price elasticity at the firm level as well as on the prices perceived by exporting companies. Particularly, we calculate the company-node level centrality and power position in the web of competitive relationships and analyse its impact on the transaction-level price elasticity of the firm.

For the above purpose, this work applies a multidisciplinary approach, in the sense that it aims to bridge international pricing strategy theory (Clark *et al.*, 1999; Gonçalves *et al.*, 2016) and price transmission framework (Lloyd, 2017; Shrinivas and Gómez, 2016) with multimarket contact and competition networks (Chellappa *et al.*, 2010; Gimeno, 2004; Jayachandran *et al.*, 1999; Liebowitz and Margolis, 2017). On the one hand, Clark *et al.* (1999) recognize that export prices are not only a function of general market trends, but that the extent of price pass-through is conditioned by the strategic response of firms in the market. We investigate this strategic response in terms of competitive positioning, measured by the centrality of the firm in a dense and complex network of competitive relations formed as firms decide to enter the markets of the world. On the other hand, Network effect is defined as “the circumstance in which the net value of an action is affected by the number of agents taking equivalent actions” (Liebowitz and Margolis, 2017). However, competition network effects are not deemed to have a positive effect of contested markets, as opposed the positive network effect in the case of product/systems adoption as posed by Katz and Shapiro (1994). Instead, a higher number of agents competing for a given market are expected to cause saturation and drive prices to lower values. Consequently, we posit that a higher number of competitors in companies’ market portfolio generates a negative network effect on their pricing performance. This means that international price shocks are

more severe for companies located in crowded markets; likewise, these firms are more prone to be exposed to asymmetric price transmission and are forced to lower prices faster when the global reference prices drop.

For our research setting, we selected a group of companies that compete for the global coffee markets in the segment of green arabica beans, known as «Colombian milds», in which they account for nearly 90% of global production. This group of coffee exporters are embedded into an international global-scale competition network dealing with managerial situations such as foreign substitutes, international reference price shocks, product differentiation challenges, institutional influence, and even farmers efficiency and climate change (Chaddad and Boland, 2009). The companies in this competition network differ significantly in size, ownership, or market diversification, ranging from small exporting farmers cooperatives to global multinational companies. The Colombian milds price is directly influenced by the international coffee reference price for arabica beans.

The empirical strategy and results are divided in two stages, first we estimate the measure of price transmission elasticities. Second, use these estimated values as dependent variable to estimate its determinants, using the network and firm level variables as independent variables. We compute the price transmission elasticity with time series firm-specific monthly data on log exports price for the period 2009:1-2017:12, we also use the log world market price for the same period. To obtain the set of firm-specific price transmission elasticities we run a separate regression for each firm in the sample, regressing the first difference of the log price of exports by firm against the first difference of the log world market price. In this second stage we analyze the determinants of the estimated price transmission elasticities from the previous step; this can be interpreted as the sensibility of the firms to international prices.

The results of our analysis show that both the density of the egocentric competition network as well as the multimarket contact of companies in the international scenario have a positive and significant relationship with the price elasticity. This means that as hypothesized, firms that embed in crowded markets that are denser and more interconnected in terms of competitive relations are more sensible to international price changes, while companies that embed in differentiated markets are less affected by global price shocks. On the other hand, the control variable size of the firm is negatively related to price elasticity, meaning that bigger companies, having more market power are less susceptible to external international shocks. Additionally, we found that neither product diversification nor market diversification are significant to explain price elasticity, proving competition intensity is of superior value in explaining pricing performance. These results have direct implications for firms' international strategy. In particular, they reveal that it is more important to access less crowded markets than plain

market diversification; in this sense, companies must take care of their market diversification strategy for the purpose of dealing with international price shocks.

Keywords: Networks, competition network, social network analysis, international pricing, price elasticity, pricing, price performance, marketing prices, coffee market.

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EFFECTIVENESS OF CERTIFICATIONS AS A TOOL FOR INTERNATIONALIZATION OF COMPANIES IN THE WOOD-FURNITURE SECTOR

Bravi, Laura; Musso, Fabio

Department of Economics, Society, Politics, Carlo Bo University of Urbino, Italy

ABSTRACT

In recent years, European economies have been experiencing a climate of persistent uncertainty, fueled by a succession of events (Brexit, trade wars between the United States, China and the European Union, Covid pandemic, war in Ukraine) capable of affecting the economic dynamics worldwide and making forecasts and expectations much more difficult or even impossible. In 2019, before the pandemic, the deceleration of world growth (+ 2.9%, from +3.6 in 2018) generated a slowdown in international trade (+ 1%, compared to +3.7 in the previous year) (Costa and Vicarelli, 2020). In the following years, the pandemic and more recently the dramatic worsening of the war in Ukraine put in question the bases of globalization as they occurred in previous decades, making business choices more complex and even more uncertain. In this context, the globalization-related processes are requiring an increasing capacity for reducing complexity and obstacles along the global value chains, by enforcing coordination and cooperation between companies, including the adoption of internationally shared technical and organizational standards (Nisi and Soriani, 2020).

With regard to business processes, Quality Management Systems Standards, which affect multiple aspects of business activities, from the quality of processes (ISO 9001), to the environmental impact (ISO 14001 and EMAS III), health and worker safety (OHSAS 18001 and ISO 45001) and Corporate Social Responsibility (SA 8000), represent a tool for monitoring all phases of the value chain in which the company is inserted (Murmura et al, 2017; Bravi et al., 2019; Bravi et al., 2020). Previous literature on internationalization of companies has analyzed these topics mainly considering the consumers' perspective (Bursi et al., 2012), but numerous studies have also been conducted with reference to relationships between firms (Matarazzo et al., 2018), or to specific sectors (Aiello et al., 2015). However, in sectors with a higher content of innovation, technology and design, such as the wood-furniture industry, the literature appears to be poor in contributions.

Based on these reflections, the paper proposes a contribution to fill the gap highlighted, by deepening the role of process certifications in the competitiveness strategies of companies, with specific reference to the wood-furniture sector. The work has the aim of investigating what the adoption of process certifications entails for companies in terms of perceived benefits or barriers, and if standards are

considered a useful support for company internationalization. As regards the methodology adopted, a structured e-mail questionnaire was sent in November 2021 to a representative sample of Italian companies in the wood-furniture sector, using Computer Assisted Web Interviewing (CAWI), investigating the internationalization level of companies, the weight of foreign markets on turnover, as well as the influence and impact of certifications on international activities. In total 247 companies participated in the survey.

The results show that the link between export and certifications constitutes a strong impetus for the adoption of management system certificates; in addition to supporting productivity, in fact, certifications help companies to better integrate into international value chains, standardizing production processes located in different countries, increasing the efficiency of business processes, improving their performance. Moreover, for most of the sample, having adopted a certification meant consolidating their position in the market, thanks to the greater reliability of the company, of which the certification guarantees, especially in the eyes of new potential customers. Therefore, it emerges that certified companies obtain greater advantages on international markets than not-certified ones. On the other side, certifications bring to an increase in bureaucracy and company costs, affecting in some cases flexibility and speed in responding to market requirements.

For companies without international experience and with no knowledge about foreign markets, facing new competitive contexts represents an obstacle that leads to postpone the decision to export (Musso and Francioni, 2013; Francioni et al., 2013). In these cases, if the need and opportunity arise, they only gradually commit resources depending on the foreign market reaction (Goedhuys and Sleuwaegen, 2016). Having a Quality Management System helps to get acceptance and legitimation in foreign markets, reducing time for market exploration and reputation construction. In case of indirect exporting, it increases the efficiency of local intermediaries.

The results of this study provide support for the effectiveness of international standards as elements of a marketing strategy aiming at facilitating and accelerating the acquisition of new customers in international markets. Moreover, the certification process exposes companies to new organizational frameworks, pushing them to quickly absorb new and improved organizational procedures, helping them to develop a common language to streamline and coordinate operations with customers and suppliers, preparing them for exporting and managing activities in international markets in a better organized way.

Keywords: International Standards; Internationalization Strategies; Wood-Furniture Sector; Italian Companies; International Management; Quality Management

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WHAT REALLY MATTERS: INVESTIGATING THE CONSUMER PERCEPTION OF FIRM'S CSR SIGNALS INTO A CORPORATE SOCIAL IRRESPONSABILITY CRISIS

Caricasulo, Federico¹; Bresciani, Stefano¹; Cali, Pietro²

¹Department of Business & Management, University of Turin, Turin, Italy

²University of Turin, Turin, Italy

ABSTRACT

We define Corporate Social Responsibility (CSR) as the commitment of several firms to reduce dangerous effects caused by their business, and the choice to have a positive social policy toward stakeholders (Mohr *et al.*, 2001). Nonetheless, in recent years we have observed a number of firms that, despite their declared CSR commitment, have engaged in a behavior inconsistent with their own policies, with negative consequences for different stakeholders, including consumers (Bundy *et al.*, 2017; Valor *et al.*, 2022). Literature has termed this phenomenon in many ways and, for the purpose of this work, we will use the name “Corporate Social Irresponsibility” (CSI) (Valor *et al.*, 2022).

Several scholars have enlightened the consumer's negative perception of firms' CSI behaviour, and how this perception may be reflected on an organization's reputation (Coombs and Holladay, 2015). Nonetheless, firms could moderate this negative perception of CSI, thanks to their previous CSR brand reputation (Lin-Hi and Blumberg, 2018). The presence of previous information about positive, virtuous CSR behavior can protect firms from CSI episodes and, consequently, it can preserve the intangible asset of corporate reputation from customers (Lin-Hi and Blumberg, 2018; Wei *et al.*, 2017).

The presence of previous information about a firm's CSR commitment underlying the corporate reputation can become a useful tool when CSI consequences fall into crisis (Coombs and Holladay, 2015; Wei *et al.*, 2017). In this context, Spence's signaling theory offers a good starting point to understand why previous information is relevant, explaining how firms use the information to signal to stakeholders their CSR commitment (Wei *et al.*, 2017) and, subsequently, mitigate the effect on consumers reactions due to CSI crisis on organization's assets (Bundy *et al.*, 2017; Valor *et al.*, 2022).

The role of information asymmetry and CSR on corporate reputation has been explored by several studies, as well as their relations with crisis management (e.g. Coombs and Holladay, 2015; Coombs, 2007; Valor *et al.*, 2022). However, academic literature has pointed to a gap in CSR and crisis studies, enlightening how we need to understand customers' influence on firm actions (Ham and Kim, 2019), a topic that has not yet been explored in depth. Specifically, there is a literature gap about which previous information relative to CSR commitment is useful to firms to mitigate CSI's crises effects on

consumers. Building on the ground of the above, we pose our two research questions: a. What kind of previous information relative to firm CSR commitment do consumers consider relevant with respect to corporate reputation in CSI crises? And b. How is this previous information perceived by consumers with respect to corporate reputation ?

Our research is a work in progress. Building on our research question, we propose to adopt a qualitative, cross-sectional approach. Our sample will be collected among consumers of firms who have the following conditions: a. Have faced a CSI crisis, and b. Have adopted a CSR clear policy before the CSI crisis. We will conduct a series of semi-structured interviews and apply the Gioia methodology. This choice is grounded on the necessity to analyse future data with an inductive approach, assuring the latter with a rigorous and systematic methodology to manage the qualitative outputs (Gioia *et al.*, 2013).

The future outputs of this research should provide us with several potential new themes and elements, useful in defining what types of previous information consumers receive and what meaning they attribute to it.

The potential findings should have both theoretical and managerial implications. First, they could contribute to filling a gap in the literature relative to CSI, customers' reaction, and crisis communication. Second, they could support the firm's managers with new insights useful to set up CSR communication strategies.

Keywords: CSR, CSI, Crisis management, Signaling theory, Consumers, Qualitative

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BUSINESS ECOSYSTEMS, DYNAMIC CAPABILITIES, AND THE CHALLENGES OF DE-GLOBALIZATION: A FOCUS ON MULTINATIONAL ENTERPRISES MANAGEMENT PERSPECTIVE

Caricasulo, Federico; Troise, Ciro

Department of Business & Management, University of Turin, Turin, Italy

ABSTRACT

Several international business scholars have described Business Ecosystems as economic communities, composed of independent economic actors, interested in a common market opportunity (Cha, 2020; Moore, 1993). Zahra and Nambisan (2012) have expanded the above description in their work on the dynamic interactions of BEs, enlightening how, in several cases, firms can emerge from these communities, and drive it toward the realization of a common market opportunity. The scholars (Zahra and Nambisan, 2012) provided a definition of these kinds of communities and renamed them as the “Orchestral model” (Zahra and Nambisan, 2012). We will narrow our focus on this specific kind of community, and we will refer to them as Business ecosystem (BE). Cha (2020) pointed out how these communities are characterized by two main characteristics, a “system-level openness” to non-economic actors and a corporate “asset-light design”. The highlighted characteristics can offer several benefits to firms’ managers because they could obtain a potential source of knowledge to leverage (Cha, 2020; Scaringella and Radziwon, 2018).

The literature has explored several aspects regarding the role of BEs and the benefits they provide for BEs members in terms of knowledge, such as the opportunity to exploit participants’ knowledge while not owning them (Cha, 2020; Scaringella and Radziwon, 2018). These benefits can be useful to MNEs’ managers who are facing international changes because they could leverage knowledge acquired from BEs to support the firm in surviving competition and transform their firms in order to give a quick response to changes (Cha, 2020; Kotabe et al., 2011).

The ability of firms to quickly adapt to changes by leveraging knowledge has been addressed by several academics, drawing on the dynamic capabilities’ framework (Zahra et al., 2022). The concept was introduced by Teece (2014), highlighting how the company can combine and maximize its capabilities, adapting to change through greater flexibility in its management, which he renamed dynamic capabilities. Teece (2014) suggests how these capacities are based on a set of underlying elements of firms, provided by the knowledge (Zahra and Nambisan, 2012). For this and according to the above, managers could benefit from BEs through the acquisition of potential new, integrative or better knowledge from community participants in contexts such as internationalization and entry into new markets (Rong et al., 2015). They can use the knowledge provided by BEs and merge it with their

own to develop the organization's dynamic capabilities (Kotabe et al., 2011) to face emerging changes, such as the one represented by de-globalization (Cha, 2020).

The latter has been described by a part of international business and management literature as an emerging phenomenon of weakening interdependence among nations (Luo and Witt, 2021; Witt, 2019) which is causing uncertainty's growth in the MNE's environment (Petricevic and Teece, 2019). Literature suggests how this ongoing phenomenon affects firms' managers, who have been called to adopt a proper firm's adaptation strategy to face unpredictable changes due to a de-globalization uncertain environment (Petricevic and Teece, 2019). In this perspective, managers could use knowledge provided by BEs to develop the firms' dynamic capabilities necessary to quickly adapt the organization to the change (Teece, 2014), despite the uncertainty due to de-globalization (Petricevic and Teece, 2019). In this perspective, BEs could be a powerful tool to face the consequences of progressive de-globalization on managing this change. Managers can leverage the source of knowledge offered by BEs to enhance the firm's dynamic capabilities (Cha, 2020) and, consequently, enhance the MNE's capacity to adapt itself in front of unpredictable changes in the international environment, supporting the firm in surviving to competition and change (Cha et al., 2021; Kotabe et al., 2011).

Cha (2020) pointed out how we have little knowledge about the influence of external factors and BEs. Cha et al. (2021) challenged this theme at the firm level, enlightening MNEs' managers could leverage BEs to enhance MNE's dynamic capabilities and face the uncertainty due to the de-globalization. However, a literature gap exists at the individual manager level. Our work tries to fill the gap, starting from the international business and management literature, we would enrich the research stream between BEs and external factors, investigating how MNE's managers could leverage BEs to enhance the firm's dynamic capabilities in facing external factors such as the de-globalization phenomenon, posing the following question: (RQ), how MNE's managers can leverage Business Ecosystems-related knowledge to enhance firm's dynamic capabilities and facing changes into the uncertainty due to the de-globalization phenomenon?

Our research is a work in progress. To answer our RQ, we would adopt a qualitative approach. We chose to narrow our sample on orchestral model business ecosystems, and we would focus our attention on the MNE key-firm (Zahra and Nambisan, 2012) inside the community. We will investigate the management level, conducting a series of semi-structured interviews with managers belonging to key-firm responsible for the firm's adaptation strategy. Actually, we are identifying firms and managers to be selected to conduct interviews. In order to realize the above, we have hypothesized to adopt the Gioia methodology (Gioia et al., 2013). This research design choice has a twofold motivation. First, it could generate potential new insides about the topic with an inductive approach, developing grounded theory and unveiling knowledge underlying the dataset (Gioia et al., 2013). Second, this

methodology provides us a tool to analyze our future raw data with a strong, qualitative rigor, and to give a structured systematization to research output (Gioia et al., 2013).

We expect, from the results of our research, the emergence of several themes and elements useful to understand how MNE's managers could leverage BEs-related knowledge to enhance firms' dynamic capabilities and, consequently, to face external factors which require a rapid organization response such as de-globalization consequences.

We shall observe several theoretical and managerial implications from our findings. This paper should fill a gap in international management and business literature on BEs and MNEs, enhancing current studies at the managerial level and connecting them to the de-globalization phenomenon. First, we will provide new insights on the mechanism of dynamic capabilities, we will generate and collect novel information useful to identify how MNE's manager could use DCs to challenge the changes. Second, we will extend the present literature on Business Ecosystem, providing new insights on how MNE's managers will be able to build organizational dynamic capabilities leveraging BEs. Third, we will enhance the emerging literature about de-globalization, which is a new and not well-known phenomenon we are facing. In addition, BEs MNEs' top managers will benefit from our findings. We should unveil several insights about practices and mechanisms put in place by managers to build organizational dynamic capabilities. Furthermore, we will expect to enhance the insights on a specific emerging phenomenon, the de-globalization, which is challenged every day by top management. Lastly, we will provide new elements useful to set the MNE's knowledge acquisition strategies under the uncertainties due to the de-globalization phenomenon.

Keywords: De-globalization, Business ecosystems, Multi-national Enterprises, Knowledge, Dynamic capabilities, Gioia method

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NUDGING EFFECTS TO REDUCE RED AND PROCESSED MEAT CONSUMPTION IN ITALY

Caso, Gerarda¹; Rizzo, Giuseppina²; Migliore, Giuseppina²; Vecchio, Riccardo¹

¹Department of Agricultural Sciences, University Federico II, Naples, Italy

²Department of Agricultural, Food and Forest Sciences, University of Palermo, Italy

ABSTRACT

Overconsumption of meat is a serious public health problem. In 2015, the World Health Organization (WHO), classified red meat as a probable human carcinogen and processed meat as a group one carcinogen. Despite this, in the EU, the average per capita consumption of red and processed meat is high, both in absolute terms (twice as high as the world average) and with respect to nutritional recommendations (Guyomard et al., 2021).

The choices of meat-loving consumers are influenced by a matrix of factors that hinders behaviour change and traps them in their current habits. Among the various factors in the matrix, self-perception and social norms appear to be common drivers in positively conditioning red and processed meat consumption (Hielkema and Lund, 2021). In contrast, the literature highlights that general concern for one's health and suboptimal physical condition may be among the drivers to reduced red and processed meat consumption (Wellesley et al., 2015).

To reduce per capita meat consumption, it is important to encourage such change among consumers through suitable intervention strategies. McBey and colleagues (2019) show how there is no one-size-fits-all approach to reducing meat consumption, but there are several potential approaches that need to be further explored. In this regard, this study aims to shed light on how behavioural sciences can contribute to consumer behaviour change to support meat consumption reduction, through the use of a relatively new technique: nudging. More in detail, this study aims to achieve two specific aims: (1) Identify the profile of individuals who consume red/processed meat above WHO recommended amounts, and (2) To test whether a nudge technique is able to positively influence future intention to consume red/processed meat among those who consume above WHO recommended amounts.

In the context of meat consumption, a series of studies tested whether framing, *i.e.*, the act of presenting information in a way that elicits a specific response from an individual, led to different consumer responses depending on the problem appeals used (*i.e.*, health issues, environmental consequences or animal welfare ethics related to meat consumption). In most cases, the message related to health information was more effective than controls or other frames. With these results in mind, the current study uses health framing about the negative consequences of excessive consumption of red and processed meat to discourage its consumption among respondents beyond

the recommendations. Specifically, this is one of the first studies to our knowledge to examine whether framing messages in terms of individual consequences Vs collective repercussions on red and processed meat consumption can *i)* have an effect on future intentions to reduce consumption among meat eaters, *ii)* there is greater personal involvement when the consequences are directed at the individual in terms of risk of developing cancer or on the numbers of deaths caused socially by excessive red meat consumption.

Using a stratified sample of Italian red and processed meat consumers (1142 individuals), respondents consuming quantities of red and processed meat higher than the indications provided by the WHO are identified and the factors influencing the choice of an incorrect diet are investigated. Subsequently, in an attempt to gently push these consumers towards healthier choices, two different nudging treatments are applied: one focused on personal health consequences and one on societal health consequences.

The collected data were processed using the statistical software STATA 16. Analyses were conducted for the entire sample and separately according to the subgroups considered. Pairwise comparisons, ANOVA, post-hoc Bonferroni test and non-parametric tests were implemented to monitor the statistical differences between the subgroups and the effectiveness of the nudge treatments. Finally, two logistic regressions were implemented to explore differences among respondents and verify drivers of nudge effectiveness.

The results show that 63.35% of the Italian sample consumed red/processed meat above the amounts recommended by the WHO. This reveals that in Italy there is a problem of excessive consumption of red and processed meat, in line with what was found for European diets.

It emerged that greater attention to individuals' health reduced the likelihood of disregarding the WHO recommendations, while the number of family members, subjective norm and self-perception increases the likelihood of belonging to the group that consumes more meat than they should. Relatively to the effectiveness of nudges impacting the intention to reduce meat consumption, it was found that both nudging treatments applied had a positive effect. Providing information on the negative health consequences of excessive meat consumption could therefore be a promising intervention to change the diet in favour of plant-based alternatives.

Our findings add to the previous literature on the effectiveness of nudge techniques in improving vulnerable consumers' food choices (Arno and Thomas, 2016; Friis et al., 2017; Sihvonen and Luomala, 2017; Marcano-Olivier et al., 2020) and enrich the specific literature on the use of framing as a low-cost strategy to reduce meat consumption and promote a shift to more sustainable diets (Cordts et al., 2014; Vainio et al., 2018; Bertolotti et al., 2016; Whitley et al., 2017).

This study provides an up-to-date picture of consumers who consume red meat beyond the WHO recommendations and, thus, need a change in their habits. In this sense, the contextualisation of individual and societal messages seems to have a significant effect by confirming to public policymakers that it is worth informing consumers about the negative side effects of meat consumption to mediate their involvement. Equally, the results highlight the importance of understanding individuals' prior beliefs about their health status and social influences to develop effective measures to encourage them to adopt diets with the right frequency and quantity of red meat. Furthermore, the evidence of the effectiveness of the intervention developed in this study could support policymakers in designing measures to encourage a healthier diet with less red and processed meat. They could develop policies targeting specific consumer groups to inform them about the negative health consequences of excessive red meat consumption. In this context, for example, using health framing on the negative consequences of excessive consumption of red and processed meats, as in this study on Italian consumers, could help guide consumers toward a lower consumption of red meat.

Keywords: health consequences, beef consumption, sustainability, behavioural science, choice architecture.

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HR ROLES AND HR VALUE: INSIGHTS FROM NON-HR EMPLOYEES

Cesário, Francisco¹; & Sabino, Ana²

¹Atlântica – Instituto Universitário. & CAPP/ ISCSP/ Universidade de Lisboa, Lisbon, Portugal

²ISPA – Instituto Universitário- APPsyCI - Applied Psychology Research Center Capabilities & Inclusion & CAPP/ ISCSP/ Universidade de Lisboa, Lisbon, Portugal

ABSTRACT

As the importance of human resources function increases for the business, also increases the need to ensure that HR managers and practitioners have the necessary competencies to be the drivers to ensure the fit between employees and their organizations. Because human resource management (HRM) is concerned with being able to demonstrate the HR function's value to the firm (Ulrich, 1997) and wants to be understood as critical to the success of the organization, this study aims to verify how its value is perceived by the non-HR employees. Therefore, we aim to answer the following research question: Is the non-HR employees' perception of HR value influenced by the perception they have of the HR roles?

We based our analysis on the HRM Roles model proposed by Ulrich (1997) which considered four roles based on two dimensions (strategic/operational orientation and focus on processes/people). The business partner has a strategic orientation focused on processes; the change agent has a strategic orientation and a focus on people; the employees' advocate has an operational orientation with a focus on people; and finally, the functional expert has an operational orientation with a focus on processes. We then proposed the following hypothesis: the perception of the HR value is positively influenced by the perception that non-HR employees have of the HRM roles.

To measure HRM roles we adapted the 33-items scale proposed by Han et al. (2006) which transformed them into HRM competencies. We adapted a 5-item scale to measure HR value proposed by Wright et al. (2001). Participants answered the questionnaire items using a 6-point Likert scale, ranging from 1 (don't know) to 6 (strongly agree).

A total of 547 non-HR employees voluntarily participated in this quantitative, cross-sectional and correlational study. Of those who responded the survey, 63,6% were women and 36,4% men, with ages between 18 and 65 years old. We used SPSS (version 26) to perform all data analysis. In terms of reliability analysis, all HR roles and the HR value presented good reliability ($.86 < \alpha < .91$). Our results also suggested that all variables correlate significantly and positively. HR value has a strong correlation with change agent ($r = .77, p < .01$), functional expert ($r = .64, p < .01$), business partner ($r = .64, p < .01$) and employees' advocate ($r = .61, p < .01$). In terms of HR roles, our results suggest the highest correlation between functional expert and change agent ($r = .71, p < .01$) which need further analysis

due to their different natures when we consider the dimensions that characterize each role. The lowest correlation identified was between business partners and employees' advocates ($r = .47$, $p < .01$).

To test our hypothesis, we performed a multiple regression analysis where it was found that all HR roles show a predictive effect on the perception of the HR value, namely, business partner ($\beta = .19^{**}$), functional expert ($\beta = .08^{*}$), change agent ($\beta = .49^{**}$) and employees' advocate ($\beta = .18^{**}$). Together, these HR roles contribute to explaining 66% of the variability of HR value ($R^2 = .66$).

Although all HR roles are relevant to HR value perception, our results suggest that the change agent role may be the best predictor of HR value which highlights that organizations need to be constantly adapting and changing. The COVID-19 pandemic proved exactly that. This new pandemic has created a complex and challenging environment for human resource management, who need to find ingenious solutions to ensure the continuity of their organizations and to help their employees to cope with this extraordinary crisis (Hamouche, 2021).

To sum up, for the HRM to be perceived as having value for the organizations' business, it is not enough for HR managers and practitioners to have specialized knowledge (being a functional expert). They need to demonstrate a strong knowledge of the organization business (being a business partner), be fundamental elements to support organizational change (being change agents) and develop interpersonal and positive with employees within the organization (being employees' advocates). And that's not all. The non-RH employees need to be aware of the role of HR managers and practitioners for the achievement of the business strategy and goals.

Keywords: HR Roles, HR Value, Business Partner, Change Agent, Employees' Advocate, Functional Expert

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THE FUTURE OF GLOBAL MOBILITY

Claes, Marie-Therese¹; Jenkins, Joyce²; Vegh, Judit³

¹WU Vienna University of Economics and Business, Vienna, Austria

²Expert Humans, Singapore

³ELTE Eötvös Loránd University, Budapest, Hungary

ABSTRACT

The COVID-19 pandemic has had a significant impact on physical international mobility for work purposes by skilled workers and professionals (and their families) has led to some expatriates questioning the attractiveness of living and working abroad.

The specific objective of this study is to explore the future of global mobility from the perspective of expatriates and their families in light of an unexpected global disruption such as the COVID-19 pandemic.

A combination of qualitative and quantitative approaches was used in the data analysis. It examines the experience of expatriates in different phases of the pandemic using two questionnaires; one at the beginning of the pandemic and the second six months later. The study group included nearly 600 expatriates of 55 different nationalities in 48 countries. This study set out to assess the impact of the pandemic, focusing on shifts in motivation and priorities for expatriation, restrictions on travel, concept of family, support systems and the role of employers and organizations.

Key findings indicate that priorities have change from career to family and safety. The pandemic situation had a significant impact on the expatriates' attitude to living and working abroad, with factors such as international travel restrictions, job security, rights of residence, health insurance playing an important role.

As borders reopen and the world takes cautious steps towards an uncertain future, requiring the collaboration across borders of the world's best talent, what factors need to be considered and what new models for a globally mobile workforce will emerge are the major contribution of the present study. The pandemic is acting as a catalyst for change: organizations may reconsider the role of expatriation, and expatriates might need to be encouraged to relocate.

Keywords: Please provide up to 10 Keywords which encapsulate the principal topics of the paper.

INNOVATION AND ICT ADOPTION MODELS IN THE HEALTH CARE INDUSTRY

Cobelli, Nicola; Chiarini, Andrea

Department of Business Administration, The University of Verona, Verona, Italy

ABSTRACT

1. STUDY BACKGROUND

The world's population is ageing at a faster rate than in previous generations, and this demographic upheaval will have an impact on almost every aspect of society. Over one billion people aged 60 and up exist today, the bulk of whom live in low and middle-income countries. The United Nations emphasizes the significance of worldwide collaboration between governments, civil society, international agencies, professionals, academia, the media, and the commercial sector in order to improve the lives of older people, their families, and the communities in which they reside (Keating, 2022). Seniors are becoming a larger market since they have more free time now that they are retired or near retirement and may pursue their hobbies and interests. Seniors are becoming a more profitable/larger market, because near and after retirement they acquire the necessary free time to pursue their hobbies and interests (Le Serre and Chevalier, 2012; Losada *et al.*, 2016). Furthermore, a rising number of seniors are willing to live a fulfilling life (Patterson, 2006).

The concept of "active ageing", which was introduced by the WHO in the late 1990s to express a more inclusive message than "healthy ageing" and to emphasize elements other than healthcare that affect how individuals and populations age, is anchored in the importance of healthy ageing (Kalache and Kickbusch, 1997). Active ageing is "the process of improving chances for health, participation, and security in order to promote quality of life as individuals age," according to the WHO (2002, p. 12). People can achieve their full potential for physical, social, and mental well-being throughout their lives by participating in society according to their needs, desires, and capacities, while receiving enough protection, security, and care when they need it. As a result, the attribute "active" refers not just to physical capacity, but also to the ability to participate in social, economic, cultural, spiritual, and civic matters in a creative and constructive manner throughout one's life.

2. THE ROLE OF NEW TECHNOLOGIES AND THE STUDY OF THEIR ACCEPTANCE

The Internet of Things and the digitalization phenomena have profoundly altered social life and healthcare (Baiyere *et al.*, 2020). Artificial intelligence (AI), wearable and implantable gadgets, mobile

apps, and the Internet have all transformed the delivery of healthcare (Chauhan, 2021). The goal of this study is to provide a systematic literature review of the available literature on healthcare technology applications and the potential for promoting healthy ageing. With the rapid advancement of technology, particularly information and communication technologies (ICT), and its incorporation into users' personal and professional lives, the question of whether to accept or reject remains unanswered it is becoming more and more important to analyze the factors that influence or determine the acceptance or rejection of technology. Over the last few decades, the scientific community's interest in discussing this subject has resulted in the development of several theories and models of technology adoption and effective use.

A variety of social and psychological aspects and traits influence human-technology interaction (Taiwo and Downe, 2013). Since forecasting human behaviour is difficult, researchers have developed a range of theories and models to explain the patterns of adoption and use of new technology. Technology Adoption Models is a well-established field that has been active for more than two decades, as technology has pervaded every aspect of life. A number of research theoretical models have been proposed to explain end-user adoption behaviour. As a result, psychological models and theories are needed to explain and rationalize whether people gain from new technologies in the study of technological innovation adoption. Several technology adoption models have been established, each with its own set of characteristics. A systematic literature review on these models, aiming at investigating the adoption determinants of ICT, is crucial to help researchers have a complete overview of the tools validated to date.

3. THE INTENTION TO SYNTHESIZE AVAILABLE KNOWLEDGE

As the population of elders grows, so does the demand for health-related ICT solutions that allow seniors to remain independent in their own homes and communities (Heart and Kalderon, 2013). To improve our solutions, we need a greater knowledge of how and why seniors use or do not use health-related ICT in such situations. In this context, we intend to conduct a thorough literature review using main scientific research engines to synthesize available knowledge.

Any academic research project must begin with a methodological examination of previous material (Webster and Watson, 2002, pp. 48-49). The importance of determining what is already known in the body of knowledge before beginning any research work should not be overlooked (Charles, 1998). Some fields of study, such as engineering, have long struggled with a lack of proper literature evaluations, stifling theoretical and conceptual growth (Vassli and Farshchian, 2018). Webster and Watson (2002) also chastised the Information Systems (IS) field for having few theories and channels for thorough literature reviews. Furthermore, they stated that efficient methodological literature

reviews that "...enhance IS as a field of research" might considerably help the IS field (Webster and Watson, 2002, p. 14). In light of these factors, the primary goal of this work is to write an effective literature review by suggesting a systematic approach to help researchers tackle such a difficult undertaking.

4. MAIN THEORIES AND MODELS OF TECHNOLOGY ADOPTION AND USE

Over the last few years, the study and development of technology adoption and acceptance theories but not exclusively in the healthcare sector, has represented a significant factor in the development and implementation of modern technologies with effects on healthcare providers' performance and social well-being. The elements that influence acceptance and consequent use of technology are numerous and, sometimes, not easy to determine; however, the theories developed thus far provide valid support in this field, allowing for a better understanding of the socio-psychological and behavioural levers on which it is possible to act.

From the conducted literature review, the following main models emerged, as illustrated in Table 1.1.

Acronym	Full Name	Author/S, Year/S	Main Constructs
DOI	Diffusion of Innovations	Rogers, 1962	Relative advantage, compatibility, complexity, trialability, observability.
TRA	Theory of Reasoned Action	Fishbein and Ajzen, 1975	Beliefs, attitude towards behavior, subjective norms, behavioral intention.
MTP	Matching Person Technology	Scherer, 1986 Scherer and Craddock, 2002	Technology adaptability to user's preferences and necessities.
TPB	Theory of Planned Behavior	Ajzen, 1985	Attitude, subjective norms, perceived behavioral control, intention.
TAM	Technology Acceptance Model	Davis, 1986 Davis, 1989	Perceived usefulness, perceived ease of use, attitude towards behavior, behavioral intention to use.
SCT	Social Cognitive Theory	Bandura, 1986 Campeau et al., 1999	Self-efficacy, anxiety, affect, outcome expectations.
MPCU	Model of Pc Utilization	Thompson et al., 1991	Job fit, complexity, long-term consequences, affect toward use, social factor, facilitating conditions.
MM	Motivational Model	Davis et al., 1992	Intrinsic and extrinsic motivations.
C-TAM-TPB	Combined TAM and TPB	Taylor and Todd, 1995	Attitude towards behavior, subjective norms, perceived control over behavior, beliefs, usage behavior, influence of significant others, perceived ability and control.
TTF	Task Technology Fit	Goodhue and Thompson, 1995	Match between task and technology.

TAM2	Technology Acceptance Model 2	Venkatesh and Davis, 2000	Social influence, cognitive instrumental processes.
UTAUT	Unified Theory of Acceptance and Use of Technology	Venkatesh et al., 2002	Performance expectancy, effort expectancy: facilitating conditions, gender, age, experience, voluntariness of use.
TAM3	Technology Acceptance Model 3	Venkatesh and Bata, 2008	TAM model constructs, and: computer self-efficacy, perception of external control, computer anxiety, computer playfulness, perceived enjoyment, objective usability.
UTAUT2	Unified Theory of Acceptance and Use of Technology 2	Venkatesh, 2012	UTAUT model constructs, and: price value, hedonic motivation, habit.

Table 12.1: Overview on the main theoretical models on ICTs acceptance, adoption and use

The study of these models is considered important not only because they provide the means to improve the interaction between end-users and technologies, but also considering the managerial implications that can derive from them.

Keywords: Healthy Ageing; Active Ageing; Productive Ageing; Silver Economy; ICT; Adopting Models; Systematic Literature Review

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BUSINESS IMPACT ANALYSIS AND PRODUCT RECALL RISKS MITIGATION STRATEGIES IN BLOCKCHAIN ENVIRONMENT

Cornea, Andreea-Alina

Economic Informatics Department, Bucharest University of Economic Studies, ASE, Bucharest, Romania

ABSTRACT

The dynamics of the economic environment has been fueled lately by the technological impact reflected in various daily activities, emphasizing the necessity to follow the progress of the modern society. The way in which companies from distinct business fields manage their resources has attracted attention lately, as there is an open approach favouring modernization and digitalization, based on multiple researches applied and oriented towards an increasing level of technology. The progressive trend was started by the big retail companies which, relying on substantial financial funds for research and innovation, have managed to incorporate modern technologies that would allow redefining some essential processes in product management.

Starting from a basic principle that states in-depth knowledge and understanding of the elements involved along the chain allows the identification and rapid intervention in areas with weaknesses, organizing a strict and efficient product management is one of the easiest ways for companies to reduce the impact of non-compliant actions along the flow. Thus, the pioneers of the industry have encouraged the involved parties to automate the existing flows in order to ensure performance, transparency and a substantial costs reduction. Based on these requirements, innovative solutions with known implications in different areas of interest have presented a series of facilities that have tipped the benefit-cost balance in their favour.

Nowadays, the business environment implies openness to novelty, which is often synonymous with redefining existing flow by adopting the latest technologies. The analysis of the latest solutions proposed in the field in which the company operates, made in parallel with the evidence of structures that can be improved and with the progress of competitors on how they manage their own product chain issues is a healthy mindset that, applied in the business environment, can lead to a potential progress towards minimized risk processes.

On the grounds of the fact that a vast majority of components used in the product management chain are the result of a carefully selected acquisition or process and it is often characterized by an external investment after following a cost-benefit analysis, which may be assimilated as a primary feature of the globalization benefits, it can result in applying the same approach to identify the technologies that

bring the greatest benefit in the environment in which they are to be integrated. In this context, following the careful observation of the way in which the pioneers of the industry and the big companies have automated their processes through technology-oriented approaches, concepts migrated from different areas and successfully applied in product management are identified.

One of the highlights of digitalization and a concept that has become increasingly known to the general public is the one based on the blockchain approach, which initially started in the financial area and expanded its functionality in various spheres where the benefits it offers are essential and outweigh the disadvantages. Qualitative action researches in blockchain-oriented solutions have outlined the idea that it can facilitate the development of processes in which several parties are involved and their efficient coordination by ensuring access to information for all those who are part of the process. Also, the traceability of the product is an important element in its management and increases the level of safety by identifying in real time the inconveniences along with the place that generated them, resulting in a quick corrective action and a transparent organization along the flow.

Consequently, the integration of blockchain-based technologies may be convenient for product chain management process automation and facilitation, which may be described as an impressive collection of activities and measures meant to ensure the effortlessly progress while achieving the ultimate goal of a controlled product recall. However, multiple processes may sometimes represent multiple encountered difficulties, which need to be addressed accordingly.

With part of the problems studied and others under assessment for solutions that promise remarkable results, companies still have processes that are formidable enemies for their profit and image. One of the biggest challenges they can face is the possibility of recalling non-compliant products, a situation that can affect the entire supply chain or, in even more negative cases where the product has already come into the possession of customers, is a threat to the brand reliability and the customer's security. The lack of product traceability and real-time statistics that can provide the company with details of non-compliant products on the market negatively increases the impact of a product recall announcement. Fines, legal action and loss of prestige can be reduced by the rapid and transparent action of the manufacturer, a move that can bring sympathy of affected customers due to its openness in assuring that all these measures are implemented to provide them with compliant products and to correct the encountered errors as soon as possible.

This research proposes an in-depth analysis of the impact a blockchain-based software solution might bring to the economic agents that confront with product recall scenarios. This context facilitates the desire to implement innovative solutions in order to ensure an efficient and transparent product recall,

outlined by clear data analysis to identify its benefits and provide certainty that an automated recall process can be successfully completed.

A technological solution that can be implemented in blockchain environment and it is proposed as part of a long-term research may be defined as an expedience for customers to receive a real-time announcement of a product recall and for companies to instantly generate statistics about recalled products in order to compute costs, risks and apply mitigation strategies adapted to the situation. The main challenge in the efficient management of this process is related to ensuring the integrity of the data, its correct storage and the possibility of being permanently accessed by the involved parties, in this case highlighting customers, producers and merchants. All these listed ideas can be solved by implementing an integrated blockchain solution for digitally stored purchases based on the tax receipt. With this presumption in mind, a brief presentation of the solution summarizes the fact that the receipt will contain all the necessary information in case of recall and will be connected to each purchased product batch number in order to provide quick access to information.

Bearing in mind the implications that companies suffer in recall cases, the necessity of studying its impact was emphasized by implementing a proof of concept solution based on blockchain technology that can understand different magnitudes of the implications in these unfavorable situations for any actor in the business environment. This research effort insists on large volumes data analysis, cross-correlating information from different economic realms and blockchain principles integration in order to provide effective solutions for sensitive issues. Conducting this research may lead to a final step in analyzing the impact that the proposed solution has brought in the consumers perception and the company statistics. To a lesser extent, quantitative researches applied to consumers through questionnaires and surveys show their openness to companies that efficiently and quickly manage product recalls, whether we are talking about manufacturers, distributors or stores involved in the process.

Starting from this technological opportunity, while being open to other options that may emerge from the research, the aim of this research is to become an instrument to mitigate the impact by providing relevant statistics about the business environment, outlining the benefits and risks of implementing a technological solution in order to automate the process of product recall.

Keywords: blockchain, product recall, business processes, brand image, costs reduction

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SUSTAINABILITY INNOVATION AND FIRMS COMPETITIVENESS: THE SMALL ENTERPRISE AND THE GIANT DIGESTER

Culasso, Francesca; Giacosa, Elisa; Giordino, Daniele; Crocco, Edoardo

dept. of Management, University of Turin, Turin, Italy

ABSTRACT

The continuous growth of the human population is causing higher level of natural resource consumption. As a result, natural resource use, and emissions are becoming a burden for the environment. Scientific evidence highlights how the increased consumption of natural resources is detrimental to the society and the environment which consequently leads to the increased pressure on firms to address those challenges such as climate change, social and environmental degradation (De Luca *et al*, 2022; El-Kassar and Singh, 2019; Shams *et al*, 2019). Moreover, today's businesses have to address the challenges created by the advent of new technologies, as well as a global market competition (Bresciani *et al*, 2021; Scuotto *et al*, 2017). Consequently, the aforementioned issues have raised the question of whether sustainability innovation (SI) is capable of improving the businesses' sustainability, as well as its competitiveness (Chu *et al*, 2018; Cillo *et al*, 2019). SI is broadly defined as the innovation towards sustainability which reduces firms' adverse impact on the environment and society while ensuring the economic growth of the company (Hermundsdottir and Aspelund, 2021). Traditionally, firms viewed SI as a cost driver which absorbs a large portion of the company's resources without producing large benefits to the environment (Cai and Li, 2018; Dey *et al*, 2019). However, the relationship between SI and firms' competitiveness has recently gained a lot of traction (Hermundsdottir and Aspelund, 2021). The current state of the art indicates the existence of a complex relationship between SI and firm's competitiveness (Hermundsdottir and Aspelund, 2021). The published findings are inconclusive and contradictory and further research is needed to establish how and under what conditions the relationship between SI and firm's competitiveness remains positive (Hermundsdottir and Aspelund, 2021). Therefore, this paper aims to answer the following research question:

RQ: How does sustainability innovation affect the firm's competitiveness of a small enterprise operating within the primary sector?

To answer the RQ a single case-study approach was utilized since most of the published articles on SI adopt a quantitative approach (90%) (Hermundsdottir and Aspelund, 2021). Multiple academic researchers highlight the need for studies which adopt a case-study approach due to the underlying mechanisms of sustainability innovation which still need to be studied in depth (Dionisio and de Vargas, 2020; Hermundsdottir and Aspelund, 2021). Moreover, the authors selected a small firm

operating within the agricultural and farming sector since previous studies mainly focus on high tech industries and manufacturing companies (Hermundsdottir and Aspelund, 2021). Additionally, it is reported within the literature that livestock production systems greatly impact the environment. Therefore, it is necessary for businesses operating within that specific sector to implement more efficient on-farm management systems to reduce the pollutants of livestock farming (Maranon *et al*, 2011).

The selected small enterprise has implemented an anaerobic digester in 2010 to reduce the operating costs associated with the disposal of animal manure, produce clean energy, as well as reduce its environmental impact. To gather the necessary data the authors have conducted semi structured interviews with various members of the small firm. Interviews were recorded transcribed and coded using NVivo. The Gioia (2021) methodology has been utilized to maintain rigor within the qualitative research. Additionally, the firm's documents, charts, reports, as well as authors' observations have been gathered and analysed to triangulate data so as to strengthen the validity of the proposed findings (Yin, 2018).

The obtained results indicate that SI does have a positive effect on the firm's competitiveness and performance since the implemented digester has reduced the operating costs, increased the revenue streams, and improved the brand image of the company. Additionally, the interviewees report an improved brand image due to the positive effects that the digester has had on the local community's quality of life. Therefore, operational, environmental, and financial performance of the small enterprise have significantly benefitted from SI. Furthermore, the owners of the small enterprise indicate that how the digester has become their best and most reliable stream of revenue. Consequently, they are debating on whether they should focus and restructure their business model to focus their resources and investments towards the production of biogas. However, when evaluating this research, the following limitations need to be considered. The authors have focused their efforts on the study of a single company which operates within specific context.

Finally, the following implication for further research has been identified. Future studies should focus on how sustainability innovation can impact the business model of a company, as well as promote its innovation.

Keywords: sustainability innovation, competitiveness, firm performance, anaerobic digester, SME, Italy

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HIGHER-ORDER DYNAMIC CAPABILITIES: THE LITERATURE REVIEW

Czapla, Alina

Department of Organizational Relationship Management, University of Economics in Katowice, Katowice, Poland

ABSTRACT

INTRODUCTION

In a high-velocity environment, e. g. as we deal with during a pandemic, companies need specific capabilities that enable them to adapt to change. When the pace of change is very fast, dynamic functional capabilities are no longer sufficient, in high-velocity markets higher-order dynamic capabilities (HDC) are important. As so far the number of publications on HDC is small, and most of them discuss these capabilities on the very general, abstract level, there is a need to fill in this research gap.

OBJECTIVES

This study aims to analyze different DC hierarchies and different concepts of higher-order dynamic capabilities. The study's objective is to develop the theoretical framework for future empirical research on HDC.

METHODOLOGY

The literature review, based on the SCOPUS database was conducted. The main concepts of DC hierarchy and HDC were analyzed.

FINDINGS

Researchers agree that dynamic capabilities have a hierarchical structure (e. g. Ambrosini et al., 2009; Collis, 1994; Schilke, 2014; Verreyne et al., 2016), but there is no consensus on their levels and multidimensionality (Table 1). Although the analyzed DC hierarchy concepts differ, they are complementary and based on each other. Nevertheless, the nomenclature of individual levels in the hierarchy is inconsistent. In addition, some levels are specified by numbers and the numbering varies. This made it difficult to analyze the research, and as a result, many inaccuracies appeared in the literature.

COLLIS (1994, p. 144-145)	WINTER (2003)	SCHILKE (2014, p. 368)	HINE et al. (2014, p. 1314)
and so on	HIGHER-ORDER CAPABILITIES capabilities to be more flexible	SECOND-ORDER DYNAMIC CAPABILITIES routines that reconfigure first-order dynamic capabilities	(HIGHER-ORDER) DYNAMIC LEARNING CAPABILITIES capabilities focused on creativity and experimentation to create new capabilities and change the way current capabilities are used
FIFTH CATEGORY OF ... better capabilities (than lower) to "learning to learn"			
FOURTH CATEGORY OF ... better capabilities (than lower) to "learning to learn"			
THIRD CATEGORY OF ... closely related to dynamic improvements, comprises the more metaphysical strategic insights	FIRST-ORDER DYNAMIC CAPABILITIES those that work to extend, modify or create the usual capabilities by routinizing the response to familiar types of change	FIRST-ORDER DYNAMIC CAPABILITIES routines that reconfigure the organizational resource base	(LOWER-ORDER) DYNAMIC FUNCTIONAL CAPABILITIES change-focused capabilities, that use less-patterned routines and more specialized resources
SECOND CATEGORY OF CAPABILITIES shares the common theme of dynamic improvement to the activities of the firm			
FIRST CATEGORY OF CAPABILITIES those that reflect an ability to perform the basic functional activities of the firm	ZERO-LEVEL CAPABILITIES capabilities that permit a firm to "make a living" in the short term, "how we earn a living now" capabilities	SUBSTANTIVE CAPABILITIES capabilities which refer to the routines that enable firms to deploy their resources in order to earn a living in the present	FIRST-ORDER ORDINARY CAPABILITIES non-change focused, focused on everyday subsistence tasks of the firm using current resources capabilities

Table 1. The concepts of dynamic capabilities hierarchy (own elaboration)

So in this study, a simplified model of DC hierarchy is proposed (Figure 1).

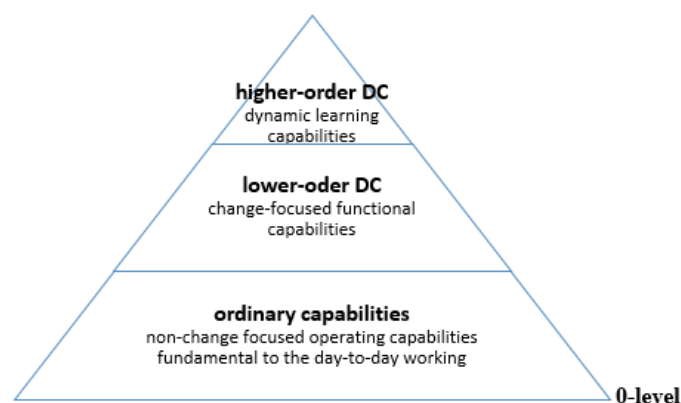


Figure 1. Hierarchy of dynamic capabilities

Source: Own elaboration based on Hine et al. (2014), Verreyne et al. (2016)

At the highest level of the hierarchy, there are higher-order dynamic capabilities, which can be also called second-order dynamic capabilities (Schilke, 2014), dynamic learning capabilities (Hine et al., 2014), or higher-order capabilities (Winter, 2003). HDC are also defined variously (Collis, 1994; Schilke, 2014; Teece, 2007; Winter, 2003). Based on these definitions and the literature review, HDC were defined in this study in a less abstract way. HDC are change-focused creative abilities to

reconfiguration, renewal, and re-creation of resources and creation of radically innovative or new routines. They can be understood as the organization's ability to go beyond the current strategic orientation, to look at resources creatively, to use them unconventionally. It will allow empirical research of these capabilities in the future.

The importance of HDC is often emphasized. They are the basis for the development of functional capabilities. They are especially needed in difficult times of crisis when firms have to cope with a rapidly changing environment. Verreyne et al. (2016) call them strategic level capabilities. Scholars emphasize the importance of studies on HDC for the development of the dynamic capability perspective as they can explain the origins of lower-order DC (Schilke et al., 2018).

Although the definition of HDC suggests their positive impact on firms' performance, the research results are not consistent. For instance, Schilke (2014) suggests that DC from different levels of hierarchy can be rather substitutes, their interaction can have a negative effect. This suggests that the HDC-performance relationship is context-dependent. The question therefore should be asked not if but when they have a positive effect on firms' performance.

To answer this question it should be noted that there are two types of HDC: proactive and reactive. Proactive HDC are connected with the systematic introduction of novelties to the environment (Winter, 2007). Reactive HDC rely on adaptation to changing environment.

The empirical studies on HDC to date have usually focused on rapidly changing technological sectors, on big innovative companies. The researchers' attention was focused mainly on the proactive mode of HDC - how to change the med-velocity business environment. However, HDC are especially important in high-velocity markets. The core idea of the dynamic capability perspective is the ability to adapt to changes in the business environment. Therefore, more attention should be paid to HDC reactive mode - adaptation to a changing environment.

CONCLUSIONS

HDC are undoubtedly an interesting topic for both researchers and practitioners, especially in the current pandemic situation, when the business environment is changing extremely quickly.

This study has some theoretical contributions. Although the concepts of DC hierarchies differ, they also share many similarities, so it was possible to combine them into a coherent whole. The originality of the study is proposing the consistent DC hierarchy, combining the most important existing concepts. The second theoretical implication of the work is proposing a less abstract definition of higher-order dynamic capabilities. The third and perhaps the most important contribution is to point out that DC, and especially HDC, should be divided into proactive and reactive. Comparing studies in each of these

categories can lead to interesting conclusions, and HDC analysis without this distinction leads to misunderstandings.

The study has also practical implications. It will allow managers to understand the concept of HDC in relation to their business activities. Distinguishing proactive HDC (to change the business environment) and reactive HDC (to deal with a change) indicates two possible strategic approaches, which, however, are not mutually exclusive.

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Keywords: dynamic capabilities, hierarchy of dynamic capabilities, higher-order dynamic capabilities.

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UNDERSTANDING THE FACTORS THAT TRANSFORM LUXURY FROM INDULGENCE TO NEED

Daher, Tatiana; Melanthiou, Yioula

University of Nicosia

ABSTRACT

Luxury is perceived differently by each human being; its psychological impact also varies from one individual to another (Dubois, 2020). "In recent years, the concept of luxury has expanded from materialism to time and passion, and has become eventually more available" (Bilge, 2015). Luxury, as a definition, is constantly changing, however, the key to luxury is and always will be centered around the idea of exclusivity (Edmundson, 2018). On the other hand, from a broad perspective, hedonism revolves around pleasure seeking, self-gratification and the pursuit of pleasure (Johnson, 2018). Linking it to consumption provides consumers with experiential enjoyment and pleasure in multisensory, emotive aspects (Hirschman and Holbrook, 1982). Psychologically, the purchase of luxury products connects individuals to the products (Thani and Sharma, 2021).

The aim of this paper is, firstly, to study the psychological impact of luxury on consumers and secondly, to understand the factors that come in play in the transformation of a hedonistic purchase to a need for some consumers. A systematic literature review was conducted, 40 relevant articles were identified and analyzed. Some of the preliminary findings suggest that buying a luxurious product has psychological effects on buyers (Dubois, Jung, and Ordabayeva, 2021). The connection the researcher is studying between hedonism and need has not yet been investigated, therefore, the purpose of this study is to offer a new conceptual framework which enables researchers to examine the extent of which a hedonistic purchase would potentially become a need. Should this study prove that the purchase of luxury is a need to some consumers, this may also change the face of marketing by shifting the marketing strategy from a luxury product that can only be purchased by those who can afford it, to a necessity that targets those who need it regardless of the financial burden of the product.

Keywords: Luxury, need, hedonic purchase, consumer differences, utility, Insatiability, self-confidence, self-satisfaction, self-concept, extensions of the self, profane, sacred consumption.

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EDIBLE MUSHROOMS FIRMS: FIRST INSIGHTS FROM A EUROPEAN SURVEY

De Cianni, Rachele¹; Pippinato, Liam¹; Varese, Giovanna Cristina²; Mancuso, Teresina¹

¹Dept. of Agricultural, Forest and Food Sciences, University of Turin, DISAFA, Grugliasco, Italy

²Dept. of Life Sciences and System Biology, University of Turin, Turin, DBIOS, Turin, Italy

ABSTRACT

BACKGROUND

The market of fresh and processed mushrooms is witnessing a positive trend in production and consumption. As evidence of this, the overall value of the sector reached over 54 billion US dollars in 2020 (IMARC, 2020) and, between 2020 and 2021, mushroom purchases increased by almost 20%, and their consumption is expected to grow by more than 12% by 2026 (KBV Research, 2021). Their consumption is expected to grow up by more than 12%, reaching 52 US billion dollars in 2026 (KBV Research, 2021). Moreover, this market is experiencing a strong development, due to the increasing use of fresh and processed mushrooms as functional foods (Ferraro *et al.*, 2020) and the raising need to find alternative protein sources to meet the demands of the world's growing population (Colunga *et al.*, 2020). Indeed, mushrooms are valued because of their good nutritional content, being low in calories and having a high protein value, and they are also accepted as a therapeutic and functional food (Chang and Miles, 2004). Nevertheless, differences in mushroom appreciation and use lead to the distinction of countries into mycophilic and mycophobic (Bringye *et al.*, 2021), thus limiting production and consumption.

SCOPE AND APPROACH

In this perspective, the main objective of the study is to provide an economic characterization of companies producing and processing edible mushrooms, focusing on two of the EU members with the greatest economic potential in the sector (Tridge, 2021), namely Italy and France. The expected contribution is to deepen the current scenario by providing a framework of the main aspects and features of the supply of edible mushrooms and mushroom products, to identify challenges and opportunities for producers and enhance this sector. To achieve this goal, some free access portals have been consulted to identify companies operating on the Italian and French territory such as *Registrodelleimprese.it* and *Europage.com*, as well as scientific literature. After that, the websites of the individual companies were accessed to extrapolate information especially regarding the variety of products offered, their commercial destination and the companies' structure (Herring, 2009). Finally,

to further detail the research, an online survey structured in 4 sections was designed in Italian, French and English, and spread to all the business identified. The data were processed in anonymous and aggregate form and analysed by means of descriptive statistics.

KEY FINDINGS

Results revealed that most of the companies identified in Italian and French territories deal with mushroom processing, followed by cultivation companies, out of which a good portion perform also processing. As regard cultivation farms, the web analysis revealed that a good portion of Italian and French companies are micro enterprises, and that *Agaricus bisporus* is the most cultivated species followed by *Pleurotus eryngii*, while other species such as *Lentinula edodes* are less cultivated. Only a small proportion of firms sell their products through Mass Retail Channel; instead, most Italian business rely mainly on wholesale trade while French companies on internal company store. A greater proportion of French companies, if compared with Italian ones, seem to have at least one product or process certification, such as Global G.A.P., organic certification and IFS. According to the results of the online survey, Italian companies prefer the cultivation of one species in monoculture, based on the quantity required by the market, the selling price, the yield and facility of cultivation. Moreover, the most critical issues during cultivation deals with control of temperature and relative humidity. Concerning processing companies, more than half are micro enterprises as well. The most popular products marketed by Italian companies are dried mushrooms, followed by preserved mushrooms in oil and creams and/or sauces, frozen products and condiments. In France, instead, a good ratio of companies produces sauces and creams, followed by dried mushrooms and condiments. Innovative products such as vegetable burgers, snacks and mushroom beverages are far less produced. The main species processed in Italy is *Boletus edulis*, while in France is *A. bisporus*. Wholesale and corporate website are the preferred market channels, whereas the most common corporate certification are IFS in Italy and organic in France. The answers to the online survey revealed that the majority of the Italian companies use imported raw material for processing, mainly because of the quantity required by the market and the selling price.

CONCLUSION AND IMPLICATIONS

The survey of mushroom production and processing companies has shown that micro and small-sized enterprises are the largely dominant size in the sector, especially in the Italian context. Processing companies are particularly relevant, since they are the most present in both the Italian and French territories, highlighting the growing interest for processed and less perishable products. Furthermore, the possession by most companies of process and product certifications is highly positive for the

development of the supply chain, and could allow a more favourable placement of value-added products in the international market. The main issue emerged is related to the supply capacity of raw materials, which emphasizes the limited capability to cultivate the required quantities demanded by the market as well as the diversification of the species used, being the supply of raw materials limited to a few species. Since preparing growth substrates for fungi and maintaining favourable growth conditions requires considerable economic effort, a promising industrial approach to reduce production costs is the solid-state fermentation (composting) of agro-industrial residues to produce vegetative mycelia, as well as the study of other unexplored microorganisms, fermentation conditions and various potential substrates, in a circular economy perspective. Therefore, the implementation of intervention policies for this market could help its development and enhance European production.

Keywords: edible mushroom, fresh mushrooms, mushroom market, processing, production, cultivation, enterprises, companies, Italy, France

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A NEW WEAPON FOR MOVING BEYOND THE WAR FOR TALENT: USING HR ANALYTICS TO SUPPORT TALENT MANAGEMENT ACTIVITIES

Di Prima, Christian¹; Ferraris, Alberto¹; Giovando, Guido²; Massucco, Matteo²

¹Department of Management, Università degli Studi di Torino, UNITO, Turin, Italy

²University of Turin, Turin, Italy

ABSTRACT

POSITIONING AND RESEARCH GAPS

It is now widely acknowledged that the attraction, development and retention of talent is one of the most crucial issues for organizations (Gallardo-Gallardo et al., 2020). However, the rapid changes happening at the demographic and technological level are having a disruptive effect on traditional talent management (TM) practices, which seem not to be suitable anymore for the needs of workers and organizations (Claus, 2019). This had some consequences for the way organizations compete. In fact, they moved beyond the traditional war for talent, a lose-lose situation where companies stole their best employees from each other (Taamneh et al., 2021), to a new competition regarding the engagement and the retention of valuable employees by providing them with stimulating working experiences (Claus, 2019), thus shifting TM focus from the organizational to the individual level (Festing and Schäfer, 2014).

Meanwhile, digital transformation had a disruptive effect which deeply affected and modified the human resource (HR) role (Mazánek et al., 2017). In fact, many HR activities were affected by technology changes, with effects also on TM, which requires always more real time data to find out what issues are most relevant for employees right now (Claus, 2019). In this sense, HR analytics, which is defined as the use of data, analysis and systemic reasoning in relation to the people involved and/or connected to the organization (van den Heuvel and Bondarouk, 2017), can offer its contribution. In fact, it allows to thoroughly analyze the whole HR decision-making process (Dahlbom et al., 2019) and to determine the causal relationship between HR practices and performance metrics (Lawler III et al., 2004).

Thus, practitioners feel more than ever the need for answers regarding practical TM issues. However, most studies on the topic focus their attention at the organizational level, neglecting the individual-level (Festing and Schäfer, 2014; Sparrow, 2019). Furthermore, the role played by the internal organizational context has mostly not been stressed out by previous studies (Gallardo-Gallardo et al., 2020). Consequently, to fill the highlighted gaps, HR analytics may play a crucial role. In fact, it will enable organizations to make TM a data-driven process, differently from its classical conception

(Gurusinghe et al., 2021). This will allow to carefully weigh TM activities on the company's internal context, making it possible to meet the specific need of individuals (Marler and Boudreau, 2017). By doing so, TM will truly become a source of competitive advantage.

OBJECTIVES

Building on the contingency theory (Harney, 2016), stating that HR management activities will increase their effectiveness as they will increase their consistency with the characteristics of the organizations and of its context, the objective of this study is to investigate the positive moderating effect of HR analytics activities on the relationship between TM activities and three TM classical outcomes: a) quality of hire; b) talent satisfaction and; c) talent retention.

RESEARCH DESIGN

This will be an empirical, survey-based, quantitative studies. Questionnaires will be completed by HR managers of European organizations which have been implementing HR analytics activities in the last 3 years. Organizations will be selected through the Orbis Database by looking for companies with an active status, with at least 10.000 employees, a production value of at least €100 million, of very large dimension and constituted before 2018.

EXPECTED FINDINGS

We expect a positive and significant relationship to exist between TM activities and TM outcomes. Furthermore, and more interestingly, we expect HR analytics activities to positively moderate this relationship. In fact, TM must not be considered as an autonomous process, as it has to be designed and implemented according to the peculiarities of the company and of the context it is operating in (Gallardo-Gallardo et al., 2020). HR analytics may thus be the perfect tool for providing the needed analytical information and insight in real time (Falletta and Combs, 2021), enabling the inclusion of sophisticated HR data analysis and the integration of data coming from several organization's departments and from the external environment (Marler and Boudreau, 2017). Furthermore, it makes it possible to include the perspectives and the interests of several stakeholders (Falletta and Combs, 2021), enabling the adoption of an holistic approach able to provide a more exhaustive comprehension of the dynamics of TM within companies (Gallardo-Gallardo et al., 2020).

Consequently, HR analytics will allow organizations to attract and retain the most valuable talents, thus obtaining a competitive advantage (Falletta and Combs, 2021), as it can be used to evaluate the effectiveness of the programs regarding organizations' talents, enabling a microscopic view of the

issues which are likely to arise in the future (Patre, 2016). Furthermore, by collecting data regarding the best practices, organizations can monitor the decision regarding their talents in a more constant and precise way (Patre, 2016).

THEORETICAL CONTRIBUTIONS AND IMPLICATIONS FOR PRACTITIONERS

First, this study will contribute to TM literature by providing empirical evidence of the impact of HR analytics. To the best of our knowledge, no previous empirical research was conducted on this topic. Secondly, we will contribute to the literature by focusing our attention on the individual level of TM, which has often been neglected in HRM literature (Festing and Schäfer, 2014; Sparrow, 2019). Thirdly, we will contribute to contingency theory by providing additional empirical evidence supporting it in a new and exciting domain (HR analytics). Lastly, we will help practitioners by providing them with useful tools to enhance the efficacy of their TM activities, thus improving key HR outcomes that are strategical for the organizations.

Keywords: talent management; HR analytics; quality of hire; talent satisfaction; talent management

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MESSAGE APPEALS DURING COVID-19: THE ADVANTAGE OF FARMERS' ALTRUISTIC MESSAGE APPEAL IN GENERATING ENGAGEMENT WITH SOCIAL MEDIA POSTS

Dorit, Zimand-Sheiner¹; Ofrit, Kol¹; Shalom, Levy²

¹School of Communication, Ariel University, Ariel, Israel

²Department of Economics and Business Administration, Ariel University, Ariel, Israel

ABSTRACT

The global Covid-19 pandemic caused disruption in food supply chains around the world which led small and medium agri-food enterprises to construct a new home-delivery-oriented operation model (or enhance an existing one), targeted to local consumers (Kol *et al.*, 2021). This shift highlights an important aspect of the new ecosystem: consumers are now an important factor in the value creation process. Brand posts on social media are essential to this type of food marketing, contributing to financial success (Haase *et al.*, 2018). Thus, it is important to understand the effectiveness of how farmers use social media messaging.

The literature indicates that during a crisis consumers are motivated in their buying behavior by either self-care (egoistic motivation) or caring for others (altruism) (Ahuja *et al.*, 2021). Previous research findings on identifying which message (altruistic or egoistic) is more effective in food marketing have proven contradictory (Birch *et al.*, 2018; Jäger and Weber, 2020). Moreover, the relative effectiveness of each motivation has yet to be examined in a time of disruptive change following a crisis. Thus, the current research aim is to monitor farmers' social media communication messages and analyze their posts on Facebook brand pages during the COVID-19 crisis. The following research questions were constructed:

RQ1 – What are the main message appeals (altruistic or egoistic) farmers used in their Facebook brand page communications during the COVID-19 pandemic?

RQ2 – Which message appeals were more effective in achieving consumer behavioral engagement (i.e., consumer likes, comments, and shares)?

The study employed a quantitative content analysis of Facebook posts during six months. Data was collected from an Israeli media monitoring company which included active Facebook pages of 48 farmers in total. 1024 posts were found to include messages regarding distribution of food from local farmers directly to consumers. A detailed coding category for the coding book, based on previous studies, was built. Since most posts contained text and visual, the coding book referred to each separately. The coding book consisted of the following categories: (1) *Post main message appeals*: altruistic, egoistic or both equally (2) four types of altruistic motives (ethnocentric, toward farmers,

toward the environment, and maintaining public health), and four types of egoistic motives (economic, emotional, functional, and hedonic values). (3) *Consumer behavioral engagement*: comments, shares and like for every post (Zimand Sheiner *et al.*, 2021). Cohen's kappa inter-coder reliability was computed indicating an acceptable level of reliability in content research.

Results for the main message appeal (RQ1) show that in both text and visuals, farmers used more egotistic than altruistic message appeals. Specifically, when egoistic motivation was the main message appeal, the farmers concentrated on functional and emotional motives. However, when altruism was the main message appeal, altruistic feelings toward the farmers were the most frequent messaging used. A one-way ANOVA test was used to answer RQ2. The tests showed significant differences among the three text messages in number of 'shares' ($F = 8.99, p < .01$) and 'comments' ($F = 4.82, p < .01$), but not in the 'likes' interaction. Specifically, in the three conditions 'likes', 'shares' and 'comments' - altruism received the highest mean score. For the visual condition, the one-way ANOVA tests showed significant differences among the three post message appeals in all interactions with the post: 'likes' ($F = 10.65, p < .01$), 'shares' ($F = 12.37, p < .01$) and 'comments' ($F = 5.75, p < .01$). In this case, the integration of both altruism and egoism in the message appeal gained the highest mean score in all three interactions: likes, shares and comments. Altruism had the second highest mean score and egoism the lowest mean score in all interactions. Since the results showed that using altruism in the text is more effective for consumer behavioral engagement, we further examined which of the distinct altruistic motives is the most effective. It was found that for all interactions with the altruistic posts, altruistic feelings toward the farmers received the highest mean.

In conclusion, the most interesting finding is that while farmers concentrated mainly in egoistic message appeals, consumers were motivated more by messages based on helping others than focused on their own self benefit. These findings make a significant contribution to the debate on which motivation, altruistic or egoistic, is more effective for promoting sustainable (or green) products with the emphasis on the context of a crisis. These findings can be viewed in light of the low self-control perspective which explains the positive relationship between crisis and consumer altruistic inclinations (Ahuja *et al.*, 2021), suggesting that helping others in times of crisis helps individuals to reduce their own anxiety and maintain self-control (Wang *et al.*, 2019). Additionally, the self-affirmation theory (Steele, 1988) asserts that individuals are motivated to maintain integrity of the self, which includes being a good group member. Thus, a threat to self-integrity, such as a pandemic, may result in a defensive state that increases motivation to help one's society in order to help one's self. Hence, in our case, altruism is found to be a self-integrity mechanism which leads to higher behavioral engagement.

This study adds new perspectives to the debate on the effectiveness of altruistic and egoistic message appeals. First it postulates that in a time of crisis, an altruistic message appeal is more effective in

creating consumer engagement. Second, the research further adds important insights into the motivating factor that comprise specific message appeals. It demonstrates the importance of looking into various motives rather than the narrow dichotomy of altruism vs egoism – both for theoretical and practical considerations.

Keywords: posts, message appeal, social media, direct-to-consumer (D2C), engagement, crisis, agri-food, altruism, egoism

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ONGOING LACK OF LABOUR AND SKILLS IN HOTELS: PRACTICAL RECOMMENDATIONS FOR SUSTAINABLE IMPROVEMENTS

**Efthymiou, Leonidas¹; Morphetou, Ria¹; Orphanidou, Yianna¹; Panayiotou, George¹; Psilla, Danae²;
Sapuric, Svetlana¹**

¹University of Nicosia, School of Business

²Ernst & Young Cyprus

ABSTRACT

Labour shortage is a common characteristic in the hospitality industry worldwide (Lim Sze Hui (2022; Eftymiou et al, 2020; Nain, 2018). The scarcity of labour is attributed to a wide range of factors, including a country's aging population, social changes (Efthymiou, 2018), unattractive wages and benefits (Nain, 2018), as well as changes in employment relations and structures (Deschênes, 2022; Efthymiou, 2010). Chronic labour shortage has a severe impact on organisations and their customers, as well as existing employees – who have to overwork in understaffed environments, suffering by fatigue, lack of enthusiasm, low morale and burnouts. As a result, labour turnover increases, contributing further to ongoing labour shortage.

The Cypriot Hospitality Industry experiences a similar problem. While more hotels are being built, more tourists arrive, and new jobs are created, the demand for labour continuously exceeds labour supply, causing negative repercussions on the quality of service offered to customers (Marathovouniotis 2018). However, everything we now so far about the problem, stems by newspaper articles and stakeholders' public statements on TV. No formal study has been conducted to explore the specific phenomenon, its causes and effects on the industry. Therefore, the current article embarks to explore labour shortage and lack of skills in Cypriot 4-star, 5-star and luxury hotels, nationwide.

The analysis draws on findings collected through in-depth interviews with General and Human Resource managers in 49 hotel establishments. Due to Covid-19, the meetings with managers were conducted virtually through 'Microsoft Teams'. The primary research was conducted between January and November 2021. All interviews were recorded, following an approval by participants. To analyze the findings, the researchers applied a three-cycle coding process.

The findings reveal that the Cypriot Hospitality industry is continuing to grow as new tourist-markets are being attracted to Cyprus, and new hotels are being built, including Luxury, Boutique, Marina and Casino hotels. Labour shortage and labour turnover reinforce each other, as part of a vicious cycle. The industry is characterized by low wages, fewer benefits as well as limited career opportunities. Thus, hotels have become a less attractive employment option. Almost half the workforce is seasonal employees, who visit their countries at the end of the season, but never return back for work. Also,

local employees often decide to change careers or search for work with better benefits. As a result, managers engage in an endless recruitment loop. Being understaffed and short of proper skills, causes a negative impact on the quality of service.

It is worth highlighting, nevertheless, that not all hotels experience labour shortage in the same way. Some of the hotels participating in the study, especially the multinational luxury chains, offer better benefits, higher wages (above the market's average), career development opportunities, awards, prizes (e.g. 'employee of the month'), and utilise customers' feedback (submitted on social media or in-house surveys, e.g. Efthymiou and Orphanidou, 2022) to inform workers' training. However, 'employers of choice' continue to operate with reduced staff, as recruiting adequate numbers of employees remains difficult.

Based on these findings, the current article suggests a number of practices for overcoming labour shortage. One suggestion (intended for immediate application) concerns the utilization of an electronic recruitment platform. The majority of managers expressed a desperate need to find new channels through which to attract staff, and are interested in utilizing new and sustainable recruitment methods. One such platform, is the so-called INSTANT, which also has the support of the Cypriot Deputy Ministry of Tourism, the Cyprus Hotel Association and several other stakeholders. The acronyms stand for 'INtelligent platform for providing STaffing ANd Training' (INSTANT) in the hotel industry. Hoteliers have the opportunity to advertise their needs through the newly developed platform. Then, the platform is capable of locating foreign employees, who are interested in arriving and settling down in Cyprus, on their own or with their families. Also, the platform provides employees with travel advice, training, advice on employment law, helps employees secure accommodation near schools for their kids, register through the Department of Immigration and more.

Another suggestion with immediate application, concerns the establishment of long-term relationships with employees, along with the increase of retention rates. A good way to increase retention is to establish a constant line of communication with existing employees, offer feedback in the light of set targets, get to know employees aspirations, needs, career goals, working styles, likes and dislikes in the job. For instance, while higher remuneration may be key to some employees, flexible work may be more important to others. At the same time, some employees may be interested in accepting higher responsibilities through delegation initiatives, whereas others may feel that what they need is basic, cross-departmental training. Such practices are part of contemporary principles of management, which aim at acknowledging employees' contribution, taking into consideration their needs, increasing retention rates, and reducing labour turnover.

One more suggestion, aims at changing the perceptions of the local community through industry re-branding. The negative perceptions prevailing amongst the locals on the working conditions in hotels call for an urgent need to firstly take the necessary steps as an industry to 'bust the myths', and secondly to re-build an industry brand with the aim to attract and retain staff. Employer re-branding is now a strategic priority for most sectors in Europe as its importance is paramount in both attracting and retaining new staff, as it is for attracting and retaining customers (e.g. Joukanen, 2020; Solnet et al, 2010). A re-branding of the sector could mean that new generations in Cyprus may start exploring the possibility of starting and even building a career in the sector. When re-branding, the sector needs to ensure it lives up to the new expectations to be developed. This is a suggestion for sustainability, which works in parallel to the previous suggestions, rather than being a stand-alone practice. In this process, key stakeholders like the government, local authorities, employers' representatives, hotel managers as well as the local communities, have to come together towards developing an improved image for the industry.

To conclude, it is worth highlighting that this is the first article that explores labour shortage in the Cypriot hotel industry, along with the sources of the problem, staffing needs, positions in high demand, recruitment challenges, and skill requirements. The article presents practical recommendations towards minimizing labour turnover and shortage in a sustainable way. The study makes a timely contribution to scholars, as well as hospitality practitioners dealing with this particular phenomenon.

Keywords: Hospitality, Hotels, Employment, Labour Shortage, Labour Turnover, Labour Retention, Sustainability, Hiring, Skills, Talent Shortage, Electronic Recruitment Platforms

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HANDS IN THE COOKIE JAR: INVESTIGATING THE IMPACT OF GREENWASHING ON NEGATIVE ONLINE BRAND ENGAGEMENT

Fenoglio, Martina¹; Bargoni, Augusto²; Giachino, Chiara²; Bertoldi, Bernardo²

¹Independent researcher

²Department of Management, University of Turin, Turin, Italy

ABSTRACT

In 2018, an international movement of environmentally concerned students was brought to life with the objective to increase awareness over climate change and sustainability related issues: Fridays For Future. This is one of the many movements that gives voice to a younger and green-oriented population (Wallis & Loy, 2021). Although some companies did not remain deaf to this concern and have started to adopt new tools to communicate their green orientation (e.g., sustainability reports, etc), others have only communicated their intention but did not implement it. To explain this phenomenon experts recall the “Greenwashing” (1986) or the practice of making misleading claims about the environmental benefits of a brand or product with the intention of making consumers forget their bad reputation as a company (Sailer et al., 2022).

Extant literature has investigated the relationship between corporate environmental actions and consumer positive online engagement (Zhang & Sun, 2021) but consumers use social media also to react to scandals or to express their brand disapproval, flooding social pages with negative comments (Liao et al., 2021). However, to the best of the authors’ knowledge, still no study has investigated consumers’ green expectations violation and their intention to engage with negative eWOM on social media.

Our research aims to fill this gap by analysing the role of greenwashing in leading green consumers to negatively engage with the brand through social media. To do so, we intend to collect data on a sample of green-oriented respondents and further analyse them through Structural Equation Modelling (SEM). More specifically we intend to measure the influence of greenwashing on consumers’ intention to engage in negative eWOM in the context of green oriented consumers and non-green oriented consumers. Furthermore, we investigate brand familiarity as moderator of the direct effect of greenwashing and negative online brand engagement.

Green-oriented consumers are highly aware of environmental issues and the necessity to protect the environment. Given this, companies promoting their real green efforts on social media are highly supported by environmentally concerned consumers (Zhang & Sun, 2021). Likewise,

greenwashing might result in a breach of consumer expectations and in a consequent sense of brand betrayal and violation of justice (Baghi & Gabrielli, 2021; Nguyen & Nguyen, 2021).

Against this background, we posit that the sense of betrayal felt by green-oriented consumers is a determinant of negative consumer online engagement which, consequently, leads consumer to actively participate with negative eWOM within social platforms. In fact, since negative emotions provoke stronger reactions compared to positive ones (Yang & Mundel, 2021), the feeling of injustice could result in consumer outrage and aggressive behaviour (Do et al., 2019). Green-oriented consumers could be more willing to engage with negative eWOM on social media due to the psychological factors behind their green expectations violation (e.g., sense of betrayal, disappointment, frustration, and disengagement).

Our findings might suggest that the branch of negative emotions perceived by environmentally concerned consumers lead them to negatively participate in conversations under brand or companies' social media contents. Since negative eWOM is more powerful and influential than positive eWOM (Topal et al., 2020), it is perceived as more authentic and has the ability to quickly go viral. In fact, hate breeds hate and is fuelled by the instantaneous nature of online communication. This can lead to "pandemics of sentiments" where people express their disappointment filling social pages with negative and aggressive comments.

This paper contributes to the extant literature by putting forward the following theoretical implication. First, it provides an explanation of the underlying mechanism through the theoretical lens of expectancy violation by examining the impact of green expectations violation on consumer online brand engagement. Second, this study adds to the body of literature on consumer behaviour research, with a particular focus on green-oriented consumers, which possess certain characteristics that differentiate them from others in terms of online engagement. In this context, feelings underlying their consumers' green expectations violation (e.g., sense of betrayal, brand hate etc) negatively affect their attitude toward the brand and could be a determinant of negative consumers engage behaviour, including the spread of negative eWOM. Third, this paper constitutes a guideline for conducting future research, for example on the role the generational cohort of consumers plays in the choice of whether to engage with negative eWOM on social media. From a managerial perspective, this paper provides companies with a frame of reference to understand the negative influence of their greenwashing activities on consumer online brand engagement, which can lead to further disastrous consequences due to the speed with which negative comments spread.

Keywords: greenwashing; brand engagement; online; eWOM; expectation violation.

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ACCOUNTING STUDENT PERCEPTIONS OF NATURAL DISASTER PREPAREDNESS IN BANDUNG CITY

Fettry, Sylvia Fettry¹; Muliawati, Muliawati¹; Rachmawati, Rima²

¹Accounting Department, Universitas Katolik Parahyangan, UNPAR, Bandung, Indonesia

²Accounting Department, Universitas Widyatama, UTAMA, Bandung, Indonesia

ABSTRACT

This study is aimed to determine the perception of accounting students on the disaster preparedness in Bandung City and its determinant factors. Disaster preparedness education is still rarely implemented in Bandung City which is one of Indonesia's disaster-prone areas. Bandung City is the largest and most populous Metropolitan City in West Java. The high potential for natural disasters (floods, landslides, and earthquakes) can cause large and widespread losses in Bandung City.

This study had given some basic inputs to the disaster management planning education in Bandung City for accounting context. Accounting students as the next generation are expected to have a high awareness of disaster preparedness and after graduation, they can participate actively in disaster risk mitigation and management. Accounting has an important role in the disaster preparedness process. Accounting has a strategic role in facilitating discourse among stakeholders through financial and nonfinancial information produced during the disaster recovery project. Accounting students must be prepared for these needs. They must be able to monitor and evaluate every response of the society on the specific natural disaster. Information produced by accounting will take an effect on the decision making in disaster risk mitigation and management.

The study was conducted by surveying undergraduate and graduate accounting students in Bandung City with online questionnaires completed in July 2022. Participants in the online survey had filled in some questions regarding disaster preparedness in the accounting aspect and their experiences with disasters. Disaster preparedness questions are developed based on the accounting context. There are six measured dimensions i.e., student's perception on the disaster likelihood, the disaster apprehension, the apparent preparedness, the authentic preparedness, the higher education preparedness in accounting context, and their personal disaster experience in the past. This study had mapped the relationship among the six factors and test it by multiple regression analysis. In-depth interviews were also conducted with some students and expert informants from universities in Bandung City and the Regional Disaster Management Agency of West Java Province.

The results of the study showed that the awareness of the importance of disaster preparedness among accounting students in Bandung City still needs to be improved. The disaster apprehension of accounting students had a stronger relationship with apparent preparedness than authentic

preparedness. The disaster experience of accounting students was proven as a determinant factor on both authentic and apparent preparedness. Perceived higher education preparedness in the accounting student mindset was proven as a significant predictor of disaster apprehension.

The implication of this study was some recommendations for accounting higher education in Bandung City and the specific authority of the Regional Disaster Management Agency of West Java Province. A disaster preparedness course in accounting context must be held in collaboration between universities and government authority as an alternative way to give sufficient knowledge about disaster preparedness to accounting students in Bandung City. Disaster preparedness knowledge in accounting context must be taught in several sessions of some relevant course subjects to the accounting students. Further research is supposed be conducted in the near future to study the important role of accounting in disaster risk mitigation and management.

Keywords: Accounting Student, Disaster Preparedness, Disaster Risk Mitigation, Natural Disaster.

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ORGANIZATIONAL, INDIVIDUAL AND TECHNOLOGICAL INFLUENCES ON MNCS' KNOWLEDGE TRANSFER

Fjellström, Daniella; Osarenkhoe, Aihie; Ines Goisa, Melissa Maria; Tayeh, Mohammed K. A.

University of Gävle, Department of Business & Economic Studies, Gävle, Sweden

ABSTRACT

Aim: to comprehend how conventional and reversed knowledge transfer flows are influenced by organizational, personal and technological elements within a multinational corporation.

Methods: qualitative research strategy, single case study design, inductive approach. Interviews were conducted face-to-face and through Skype video calls, for a total of ten semi-structured interviews from both headquarters' employees and subsidiaries' employees.

Results and conclusions: the research explain what type of information are shared in the conventional and reversed knowledge transfer flows between headquarter and subsidiaries. Analyzes in-depth how different elements influence these KT flows. influences exercised on conventional and reversed knowledge transfer flow on previously given elements. A conceptual framework (Figure 2) is built to summarize these influences. And eventually it touches upon what are the benefits of knowledge transfer for a MNC and its implications.

Suggestions for further research: to replicate the qualitative study with a multi-case study design; to develop a deeper understanding on the relationship between the elements; and to deeper understand how knowledge transfer benefits can influence the MNC's overall performance and subsidiaries' performance.

Contribution of the study: it contributes with in-depth understanding of the influences that affect each element of the conventional and reversed knowledge transfer, highlights the importance of knowledge transfer for social development; and it provides an understanding of the benefits of knowledge transfer to achieve competitive advantage.

Keywords: conventional and reverse knowledge transfer, benefits, influences

BUILDING RESILIENT FOOD SYSTEMS. THE ROLE OF A DIGITAL PLATFORM TO DRIVE INSTITUTIONAL CHANGE

Forliano, Canio^{1,2}; De Bernardi, Paola¹; Bertello, Alberto¹

¹Department of Management, University of Turin, Turin, Italy

²Department of Political Science and International Relations, University of Palermo, Palermo, Italy

ABSTRACT

BACKGROUND AND RESEARCH GAP

Food waste is one of the most critical sustainability concerns of our society (de Visser-Amundson, 2020). Almost one-third of the food produced globally is wasted (Ellen MacArthur Foundation, 2019) and the most significant part of this waste is generated in the late stages of the food supply chain (De Bernardi *et al.*, 2021). This data could increase dramatically over the next years if we do not act urgently to change course. In fact, the current population is estimated at 7.7 billion people, and according to the United Nations, it will reach 9.7 billion people in 2050 (United Nations, 2019).

Research on socio-ecological systems has identified three attributes as enabling factors of systemic change in sustainability transitions: resilience (i.e., the ability of a system to recover from disruption) along with adaptability and transformability (i.e., the capacity of people in the system to manage or influence resilience through path-breaking changes in systems at multiple scales) (Walker *et al.*, 2004). Resilience and transformation in socio-ecological systems can be developed only when different stakeholders collectively mobilize their resources for the sake of the community (Dentoni *et al.*, 2021; Magis, 2010). In the food sector, a new type of artefact, the digital platform organization, has recently taken on a brokerage function to connect people along the food supply chain, bridge circularity holes, and enable food sharing through pecuniary and non-pecuniary models (De Bernardi *et al.*, 2020; Ciulli *et al.*, 2020).

Considering the above, digital platforms can constitute a proper solution to the food wasted in the late stages of the food supply chain since they can match food provision and demand, enabling transparent transactions between consumers and retailers and giving complete information about the food whilst guaranteeing its security (De Bernardi *et al.*, 2021). However, an effective transition towards a more sustainable supply chain entails a broader set of interactions and relationships that go beyond the business-civil society nexus. Multi-scale processes of change (Dentoni *et al.*, 2021; Williams *et al.*, 2021) requires organizational, institutional, and societal work. Previous research has highlighted that food waste start-ups' can change institutions by conducting institutional work aimed at transforming food systems from linear to circular (Närvänen *et al.*, 2021). However, we have little

evidence of the interconnected set of interactions and relationships that are activated to influence the three pillars of institutions (i.e., regulative, normative, and cognitive). Furthermore, when businesses open their boundaries to consider the societal and environmental implications of their activity, different actors' logics are put into place. This can generate some tensions that need to be effectively identified and managed for not being detrimental for the system under analysis (Hamann, 2020).

PURPOSE

To fill this gap, we applied a system thinking perspective to identify the causal complexity that characterizes a business model based on multi-stakeholder partnerships. In particular, we explored the case study of a digital food platform that connects customers to retailers (e.g., restaurants and local stores) that have unsold food surplus. Established in Copenhagen in 2015, this mobile application has rapidly extended its business to other Countries, overcoming 50 million users worldwide.

METHOD

Based on a rich document analysis of secondary data and semi-structured interviews, in this explorative study, we developed a causal loop diagram for highlighting the feedback loops characterizing both the company's business model and its interaction with the surrounding institutional environment, reconciling a zooming-in and a zooming-out perspectives (Dentoni *et al.*, 2021). Thus, we could identify both the vicious or virtuous feedback loops, determined by self-reinforcing or self-balancing multiple cause and effect relationships characterizing the system under analysis.

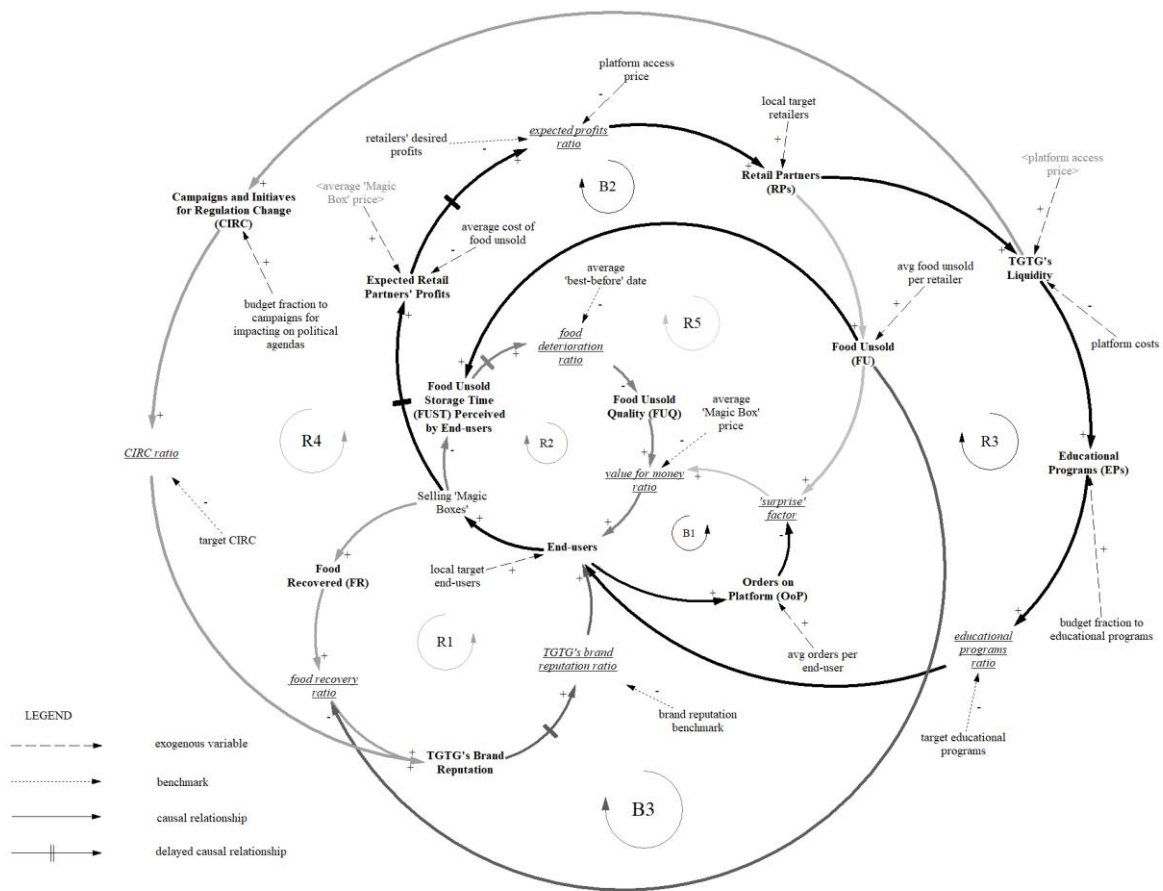
RESULTS AND IMPLICATIONS

Figure 1 provides a preliminary overview of the developed causal loop diagram. For example, the company devotes a fraction of its budget to sustain education programs against food waste, fostering cultural changes but at the same time attracting new end-users, enhancing the 'expected profits ratio' of retail partners, and encouraging the access of new partners to the platform (Loop R3). Moreover, previous research detected how consumers' abilities to properly understand the meaning of the expiration date on product labels is one of the most significant variables influencing the decision to use or throw 'sub-optimal' food away (Aschemann-Witzel, 2018; Van Boxtael *et al.*, 2014). Thus, the company has "started to push for policies to make labels more transparent and easily understandable for everyone [...] across all [their] markets" (Too Good To Go, 2021). With this aim, the company also finances campaigns and initiatives for regulation change, which constitute one of the social and

environmental drivers through which the platform's brand reputation and usage are positively affected, encouraging new retailers to join the platform and sustaining the self-financing source for promoting initiatives aimed at impacting the regulative environment (Loop R4).

This study contributes to researching food waste and circular economy from the perspective of socio-ecological systems change. To do so, we cross-fertilize research on institutional work with a systems thinking approach that provides a more holistic view of the transition towards more sustainable food systems.

Figure 1. The CLD of the causal relationships underlying the TGTG's business model



Keywords: digital platform; institutional change; resilience; food waste; system dynamics

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FINANCIALIZATION THE ECONOMY AND ITS BALANCE: AN EMPHASIS ON SMART VILLAGE

Franc-Dąbrowska, Justyna¹; Drejerska, Nina²

¹Department of Finance, Warsaw University of Life Sciences, Warsaw, Poland

²Department of Development Policy and Marketing, Warsaw University of Life Sciences, Warsaw, Poland

ABSTRACT

In a global economy, with an imbalance in the production and consumption of food, the acceleration of cross-border transactions is the advantage of new technologies (Koch, Pieters, 2017, s 3). Adamashvili et al. conclude about blockchain as a useful tool for guarantying a traceability system and protection of the production from fraud or contamination across agri-food sectors (Adamashvili et al., 2021). Agricultural activity is characterized by a low level of risk, although more and more threats appear from nature, e.g. weather conditions, diseases of animals. Therefore, in the field of financial management, farmers show conservative attitudes, or even risk aversion. At the same time, the sector as well as rural areas in general face new trends and technologies, supported also by public policies. Smart Village concept is one important to be mentioned as it assumes traditional and new networks and services enhanced by instruments of digital, telecommunication technologies, innovations and the better use of knowledge, for the benefit of inhabitants and businesses (EC. EU Action for Smart Villages. 2017). Thus is can be clearly seen as the these two concepts (Smart Village and block chain technology) overlap to a great extent. Publications aiming at summarizing blockchain technology for Smart Villages usually start with agriculture (e.g. supply chain traceability, smart farming), environment (e.g. waste management), energy, but they also refer to financial services (Kaur and Parashar 2022; Vacca et al 2021). Dynamic environment makes it important that also farmers can obtain additional profits by fitting into smart financing models, and not by remaining in the current, well-established and relatively safe *status quo*.

This paper is amongst the first attempts to examine the farmers' behavior regarding financing their activities with the perspective of blockchain technology within the framework of Smart Villages. In addition to identifying the most popular real practices, the paper proposes an conceptual model of intelligent financing for Smart Village and contributes to the academic debate and provides useful recommendations to both policy makers and practitioners.

The study deals with issues related to the progressing (as it seems to be increasingly faster) process of financing the economy, searching for a new balance in finance (more broadly economy) and the application of new technologies within Smart Village. Rural inhabitants from the Mazowieckie region (Poland) were asked to answer the questionnaire provided online with the webankieta platform.

Current study refers to 289 questionnaires obtained (including 135 people living on the farm) from May to August 2022. Pilot study was conducted in February 2022. Respondents could comment on the Smart Village concept, its applicability and difficulties related.

Our results confirm already identified regularities that it is mainly a cash payment (often and very often 52%), but never, rarely or quite often - a total of 91.9% - a transfer over 30 days. Payments for raw materials - despite many convenient forms - are usually made in cash, and the development of modern technologies has not changed this state so far. The form of receiving payments for the sold products was also verified. In this case, a cash form was very often and often (53%), while transfers with a payment term of more than 30 days were significantly less popular.

It is worth emphasizing that 78% of 289 respondents (including also respondents not connected professionally with agriculture) indicated that broad-band Internet is a factor enabling rural development. The financialization of the economy is based precisely on the fast transfer of data, and therefore information and reaction to it. The second factor indicated by respondents is the development of road and rail infrastructure (70% of responses).

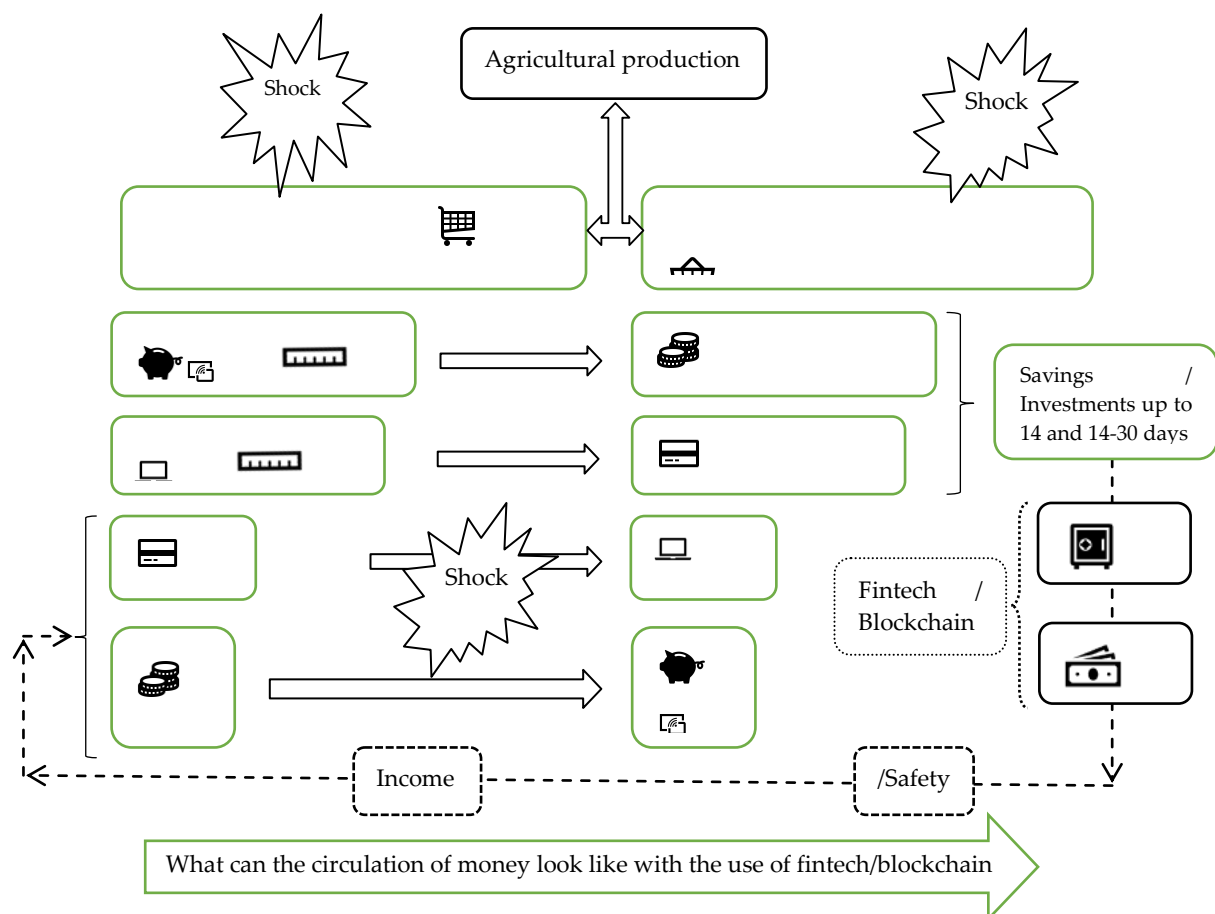


Fig. 1. Conceptual model of intelligent financing for Smart Village

Source: own

The proposal of a conceptual model of intelligent financing (Fig. 1) takes into account the fact that sale of products remain on the current terms, i.e. with the dominant share of cash/card payments, i.e. basically during the transaction. At the same time, it could be proposed to increase the scale of using payments with deferred payment terms (e.g. up to 14 days or 14-30 days) and invest the secured cash for these payments in short-term deposits, and even (an option for farmers preferring a higher level of risk) investments in more developed financial instruments associated traditionally with blockchain technology (e.g. cryptocurrencies, and initial coin offering). With high inflation and the possibility of investing free cash, it would be possible to develop additional amounts that would be added to the farmer's budget. However, the model requires some assumptions to be acknowledged (e.g. farmers' literacy on financial markets).

Keywords: financialization, economy, balance, Smart Village, blockchain, farm, cash/card payment, agriculture.

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FRAMEWORK FOR ADAPTING AN AGILE WAY OF WORKING

Giraldi, Luca¹; Coacci, Sofia²; Binci, Daniele³

¹University of Macerata, Department of economics and Law, Macerata, Marche, Italy

²University of Macerata, Departemente of Communication and Political Science, Macerata, Marche

³University of Rome, Department Economics and Business Department, Rome, Lazio, Italy

ABSTRACT

This paper aims to propose a multilevel theoretical framework and a set of value propositions to reflect on the adoption of agile working.

We construct a multilevel framework for an agile working adoption strategy by examining the most important internal and external variables.

Results find that four components composed of contextual, structural, social and individual variables are able to influence the adoption of agile working. In addition, a number of factors that can facilitate or prevent change are presented.

This paper aims to provide a valuable contribution to the adoption of agile work, which has increased dramatically during Covid-19 and the lockdown but is still under-explored.

We propose a framework and set of propositions, but we do not test them. More research should be conducted about this framework.

INTRODUCTION

Digital Transformation (DT) involves adopting new agile working models at the expense of those now deemed archaic (Suseno, 2018). Agile working can be conceptualised as the possibility to work more flexibly in space (where work gets done) and time dimension (when and how long workers engage in work-related tasks).

Although the Literature has defined the contribution of environmental, technical, organisational and personal elements in adopting agile work (Lyytinen and Newman, 2008)(Ales et al., 2018), insights into its adoption are still missing.

By starting from the literature gap, we aim to understand the primary variables organisations should consider for an Agile Working adoption strategy.

We first describe the contextual factors of the environment, and the different approaches organisations can undertake for facing change. Then we describe the organisational and group variables related to agile adoption and individual factors enabling it.

THE ENVIRONMENTAL LEVEL: DYNAMISM

Literature has described the environment as stable or dynamic.

A stable environment is characterised by underlying static demand because of entry barriers or limited technological or regulatory change that keep the competition stable and predictable, arising development and innovation, with moderate but constant growth.

Conversely, a dynamic environment is characterised by uncertainty, a high rate of change and variability, quite similar to a crisis context in which the need for change is continuously requested.

ORGANISATIONAL APPROACH: REACTIVE VS PROACTIVE

Reactive organisations adaptively respond to a pressing external demand for change that might involve responding to a new strategy adopted by a competitor or to a new environmental issue, as regulatory or technological change.

Differently from reactive organisations, the proactive ones actively seek information and opportunities to improve the situation (Kung and Kung, 2019).

The different intensity of environment dynamism (static vs dynamic) and organisational proactivity (proactive vs reactive) framed four different environment-organisations combinations in the matrix in figure 1. Following, we fully describe all the quadrants of the matrix.

Quadrant I: this quadrant represents reactive organisations that fit with a stable environment.

Quadrant II: this quadrant represents reactive organisations that are unfit for the dynamic environment. Despite dynamic environment being a very frequent contingency, reactive organisations are not always able to survive and will be selected out;

Quadrant III: this quadrant represents proactive organisations that fit with an unstable environment. Such contingency is quite frequent in today's dynamic scenario, and organisations are perfectly able to survive and prosper: they will be selected in;

Quadrant IV: this quadrant represents proactive organisations that are unfit with a stable environment. Such contingency is relatively infrequent in today's dynamic scenario, and organisations cannot always survive and will be selected out.

We suppose that agile working adoption is associated with high dynamism of the environment and high organisation proactivity.

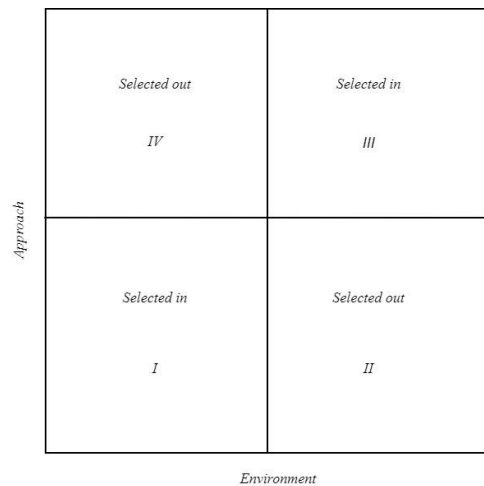


Figure 1. Context and Agile Work Adoption

However, such a macro-organisational perspective and the cause of inertial forces should also be analysed into a micro perspective that considers the main variables for a pro-active organisation related to an agile perspective.

ORGANISATIONAL VARIABLES: TECHNOLOGY, STRUCTURE AND CULTURE

The different intensity of technology adoption and cultural and structural redesign (high or low) framed four different situations in the matrix of figure 2. Below, we fully describe all the quadrants of the matrix.

Quadrant I: Status quo: it is plausible in those business environments that tend to be stable, where no significant changes are expected. Whereas, on the other hand, the environment is turbulent and unstable, the status quo will not hold up in the face of dynamism: in this case, companies that do not 'reinvent themselves' will fail.

Quadrant II: Automation is defined as the performance of tasks by machines rather than human operators (Barley, 2015). Automation results in reducing operator workload, errors and labour costs (Barley, 2015; Parker, 2014).

Quadrant III: Agile Working and technological advances freed business activity from a focus on place. Both work activities and markets have been able to harness information and communication technologies to operate remotely (Bednar and Welch, 2020; Trabucchi *et al.*, 2021).

Quadrant IV: Continuous improvement: it is particularly recommended for those companies that want to improve in small steps, continuously, without using the technology heavily, is mainly focused on the statistical process approach.

We suppose that agile working adoption is associated with the high intensity of technology adoption and cultural and structural redesign intensity.

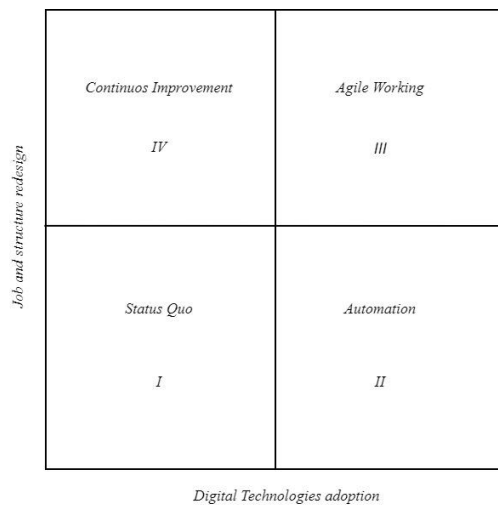


Figure 2. Digital Technologies and type of Organization structure

SOCIAL VARIABLES: TRUST AND EMPOWERMENT

Literature usually considers empowerment into two main components: structural empowerment and psychological empowerment. Structural empowerment is a set of practices, conditions, policies, and structures that enable the transfer of power and authority from higher levels of the organisation to lower levels (Bowen and Lawler, 1992; Laschinger *et al.*, 2004; Mathieu *et al.*, 2006).

From the other side, psychological empowerment is defined as an intrinsic task motivation reflecting a sense of self-control about one's work and an active involvement with one's work role (Seibert *et al.*, 2011).

Empowerment is directly proportional to the trust placed in employees (more trust equals more empowerment).

The different intensity of autonomy and discretion (high or low) framed four different situations in the matrix in figure 4. Following, we fully describe all the quadrants:

Quadrant I: the worker has no degree of autonomy in decision-making and has to follow the rules imposed by the leader as a daily work routine. The worker is subjected to strict control during the performance of his activities, because it is on the performance of each individual activity that the final result depends.

Quadrant II: The Top-Down Management approach places all decision-making power in the hands of the leader, who dictates the guidelines to his employees who are in charge of actually doing the work, reserving them work autonomy but carefully monitoring the end result to avoid errors that deviate from the decision-making policy.

Quadrant III: this quadrant highlights the agile approach that allows the employee to work with autonomy and discretion. The worker does not have rigid routines to follow and decides and takes responsibility for his actions.

Quadrant IV: this quadrant highlights a transfer of power from top to bottom in the organization. It's a framework in which the entire organisation participates in the decision-making process. Teams are self-contained and formed based on talents and experiences. Rather than receiving directions and then acting on them, these teams are self-directed and decide on the best approach to do their job.

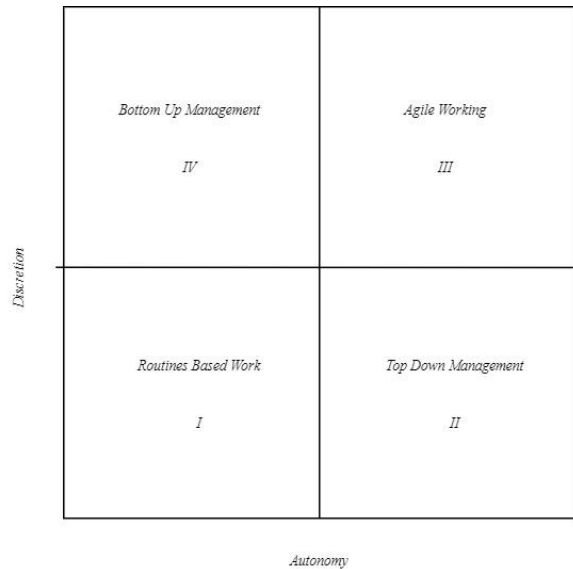


Figure 3. Structural and psychological empowerment an agile working adoption

We suppose that agile working adoption is associated with high autonomy level and discretion.

IMPLICATIONS FOR FUTURE RESEARCH AND CONCLUSION

The framework developed in this paper (Fig. 4) takes its cue from an open socio-technical perspective. It considers a multilevel approach focused on context, organisations, teams and individuals' approaches to adopt effective agile working.

Our framework is not a universally applicable model because the effective adoption of an agile framework depends on the context in which the company operates (stable or unstable environment). This study aims to help describe the environmental, social and individual factors underlying the organisation and, for each hypothesised context, suggests a different approach for the organisation to adopt.

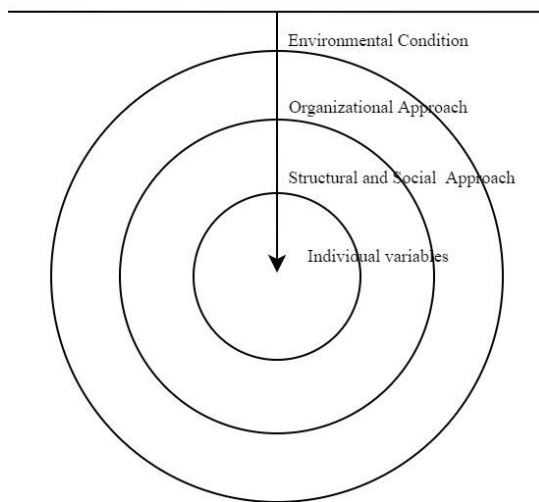


Figure 4. Agile working adoption framework

In drawing up this framework, the present authors made use of studies previously carried out in the literature. According to many authors, the Covid pandemic has accelerated a way of working -smart working- that can be exploited as an opportunity if the organisation adopts an appropriate open mindset (Langé and Gastaldi, 2020; Petrillo *et al.*, 2021). In contrast, specific sectors that necessarily require manual and physical labour (industrial sector, metal sector, etc.) can afford to adopt a status quo approach.

The quadrants can therefore serve as an aid to companies in deciding where to locate themselves.

Finally, we describe the limits of our research.

First, we do not analyse the impact of different contexts on agile working adoption.

Second, other variables should be considered on Agile working adoption, such as team maturity and digital skills, resilience and the ability to effectively address problems and challenges by acting with a creative response (Mendonça *et al.*, 2004). Finally, we propose a framework and a set of propositions but do not test them. Future research should be conducted about testing them in order to consolidate the framework.

Keywords: Agile working, Proactive approach, Trust, Culture, Empowerment, Change Management, Digitalization, Theoretical Framework

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HUMAN RESOURCE MANAGEMENT PRACTICES/MECHANISM AND ORGANISATIONAL PERFORMANCE RELATIONSHIP LINKAGE EXPLORATION: AN EMPIRICAL INVESTIGATION IN THE COUNTRY OF THE U.A.E.

Gkoura, Valeria; Kaufmann, Hans Ruediger; Halkias, Daphne

University of Nicosia, Nicosia, Cyprus

ABSTRACT

The linkage between organizational performance and human resource management (HRM) named as the 'black box' have been the 'holy grail' for many researchers, however, the nature of this interaction and, especially, the search for conclusive evidence, has been unsatisfactory so far. The black box has only been partially filled (Jaap Paauwe 2020), and there are many still existing challenges in terms of missing elements and inappropriate theorizing (Paauwe and Farndale, 2017). So far, in the literature quantitative researchers have established a statistical connection between HRM and performance with the aim of predicting what is going to happen to performance if HRM practices are involved in representing the method of scientism. However, Fleetwood and Hesketh (2011) highlight that we should be sceptical regarding the belief that transposing techniques that work in natural science can work in social science too. Thus, this research takes Fleetwood and Hesketh's work as a starting point, and explores, in-depth, the way in which the HR practices work their power-tendencies. Also, it examines four HR practices: compensation, training, recruitment and selection, and performance appraisal, the research identifies 18 articles that have focused on the HRM–performance relationship, which have been published in key journals over the last decade; still, it focuses on the top four most often studied HR practices. Moreover, these four have been widely used in almost all UAE. based organisations, where the current research was conducted. Also, Emiratisation is a very powerful practice in the UAE and it is related to the contextual environment of the region, a phenomenon, that has largely been understudied (Elbanna, 2012). Applying a qualitative approach, 15 semi-structured interviews and two focus groups with seven to ten participants, from medium UAE. service providing companies of the private sector have been conducted. The conceptualisation in Figure 1 was developed as a basis to explore how the HR practices and their power/tendencies work and why, when it comes to organisational performance.

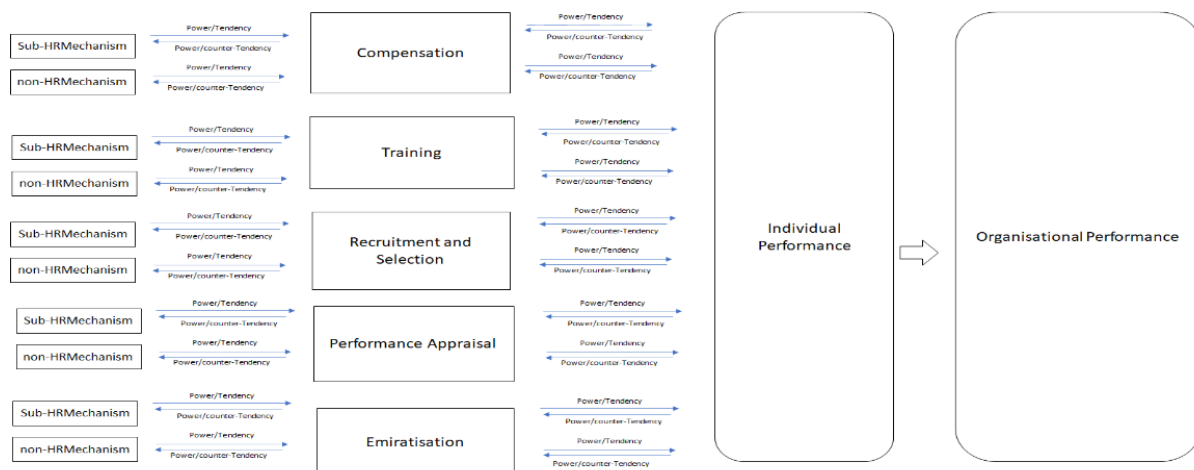


Figure 1: Initial Conceptualisation

Source: Author's own.

Conclusively, in the current research, the interview data analyzed by content analysis have allowed us to ascertain that compensation, training, recruitment and selection, and performance appraisal tend to increase performance. On the other hand, Emiratisation tends to decrease performance. In each HR practice, there are some sub-HR Mechanisms and non-HR Mechanisms that have their own influence on performance. Hence, in open systems, like the workplace, there is no certainty on the effects that the HR practices may bring, but they have a tendency to cause them (Fleetwood, 2017). Subsequently, the conclusion is that each HR practice has a tendency to have some influence, but the actual condition that will result depends on each sub-HR Mechanism and non-HR Mechanism and on how these have been handled by the management of each organisation. Thus, HR managers will be aware of the mechanisms and how they work in specific contextual factors, in order to influence performance. Hence, the current study tries to contribute to the knowledge by attempting to propel this 'black box' forward and by eliciting fresh insights into how complex processes of HRM unfold. It also responds by addressing the call for research in a non-western context and, as has been stated, the research in these countries is not necessarily functional in the rest of the world (Paauwe and Farndale, 2017); further, the Middle East region, has been left behind in terms in management research (Farouk et al., 2016) with less available HRM literature (Budhwar et al. 2018). Plus, this study helps HRM illuminate its value, as William Scott-Jackson et al.(2014a) state, there is clearly a failure of the HR in GCC countries to communicate its importance, and contribute to strategic goals of the organisations.

Keywords: HRM practices, Performance, Training, Compensation, R&S, Performance Appraisal, Emiratization, UAE.

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TECHNOLOGICAL ACQUISITIONS: A SYSTEMATIC LITERATURE REVIEW

Gordano, Silvia

Department of Management, School of Management and Economics, UNITO, Turin, Italy

ABSTRACT

INTRODUCTION AND CONTRIBUTION

The technology mergers and acquisitions (TM&A) sector has been strongly on the rise over the last decade (Deloitte, 2022). In 2021, tech deals outright reached a volume of \$1.2 trillion, representing almost 30% of the total volume of completed transactions (451 Research, 2021). This testifies that, alongside traditional motives for merger and acquisitions (M&A), e.g., entering new markets, joining forces with or eliminating competitors and achieving economies of scale and scope, the rapid obtaining of novel technologies has become a highly significant source of M&A activity.

Despite these premises, management-based acquisitions literature linking M&As and innovation suggests disappointing post-acquisition innovation outcomes (e.g., Hitt and Hoskisson, 1991; Kapoor and Lim, 2007) due to target selection, post-merger integration and assimilation-based related issues (Ahuja and Katila, 2001; Cloudt, Hagedoorn and Van Kranenburg, 2006). The potentially valuable but also challenging nature of «technological acquisitions» has spurred over time an ever-growing body of studies. However, scholarly research on the topic remains largely fragmented, due to the multitude of ways in which acquisition motives can be categorised (Aalbers, McCarthy and Heimeriks, 2021), the separate investigation of interconnected aspects of the phenomenon, and the variety of metrics used to assess post-M&A outcomes.

With this in mind, this study aims to systematically reviewing and critically analysing the rich, but dispersed, current level of research conducted on TM&A in the business and management area, by answering the following research questions: *How has research on TM&A developed over the years? What are the main themes and findings of management research conducted on TM&A?*

The intended objectives are the following: 1) to analyse articles in terms of theories, methodologies, context of analysis and variables adopted, in order to portray the variety of theoretical perspectives and metrics employed across the years; 2) to synthesise findings into a comprehensive and up to date framework; 3) to identify knowledge gaps that could represent a fruitful starting point for future avenues of research in the domain.

This work contributes in many ways to scholarly research and management practice. First, the study adds to existing M&A and innovation research by providing a systematic literature review on innovation-driven acquisitions. By acknowledging some prior efforts undertaken to systematise the

current level of knowledge on the topic (Dezi et al., 2018; Christofi et al., 2019), the present work brings a novel contribution for what concerns the types of reviews conducted and the level of analysis. Indeed, it differs from the reviews by Dezi et al. (2018), who did not provide a theme-based synthesis and integrative framework, and by Christofi et al. (2019), as it proposes to explore TM&A at a company-level, thus not specifically adopting a micro-foundational perspective. Second, the study provides a comprehensive framework, developed across pre-merger and post-merger stages, that unifies and organises existing studies. Third, the reviewing work allows to identify emerging themes, main findings, limitations of extant research and research gaps, which can be leveraged to further advance academic research on the topic. Finally, the study builds a holistic understanding on the contextual factors, integration mechanisms and contingencies affecting M&A outcomes, which can serve as a guiding tool for executives in developing effective acquisition strategies resulting in successful financial and innovative outcomes.

METHODOLOGY

I adopt the systematic literature review (SLR) methodology as it relies on a reproducible and transparent literature search and selection process (Tranfield, Denyer and Smart, 2003). The model proposed by Denyer and Tranfield (2009) is followed and its steps are summarised below.

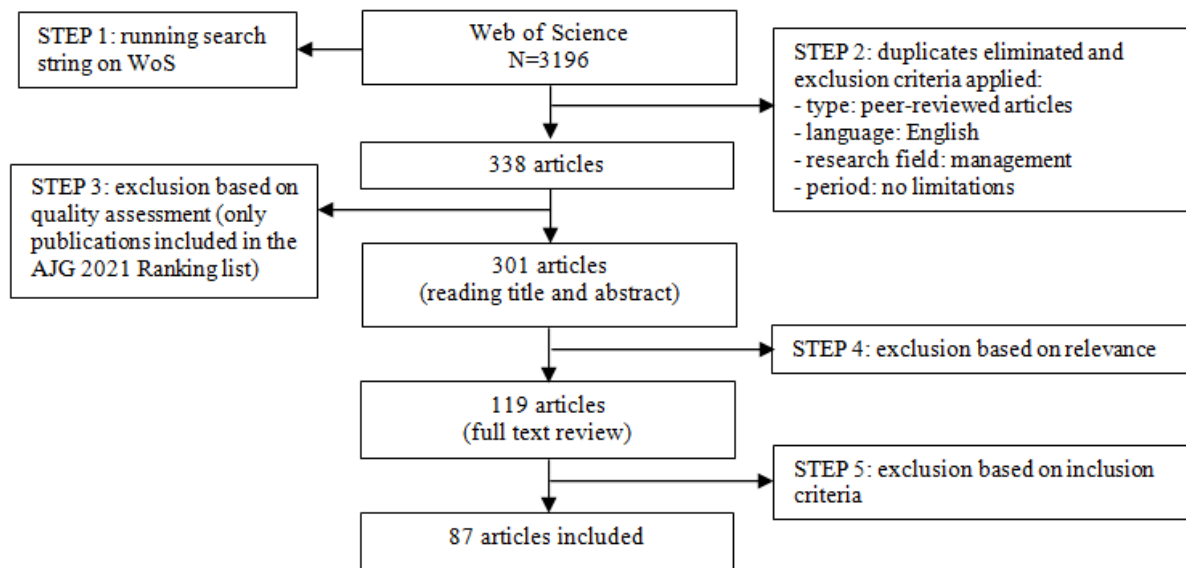
Localization of studies. Guided by the above research questions and having run a pilot study to identify the most suitable keywords, I derive the following search strategy for data collection: TITLE-ABS-KEY (((technolog* OR innovat* OR *tech OR "knowledge-intensive") AND ("M&A" OR "M&As" OR "mergers and acquisitions"))), OR ("technological acquisition*" OR "startup* acquisition*" OR "start-up* acquisition*").

Following previous studies, I use Web of Science database as my search engine (e.g., Cillo et al., 2019). The initial search returns 3196 results, which are narrowed down according to *exclusion criteria* and *quality assessment* (see Fig. 1).

Selection and evaluation. I define the conceptual boundaries guiding the procedure of articles' selection and evaluation for inclusion (*inclusion criteria*) in the sample: 1) articles dealing with the link between M&A and innovation are screened to include only innovation-driven acquisitions; 2) studies addressing the acquisition of knowledge-intensive firms are included only if they are functional to investigate knowledge acquisition related to innovation and if they do not focus on M&As as an exit strategy from the start-up perspective.

Ultimately, the process of title, abstract and full text reading leads me to a final sample of 87 articles.

Fig. 1. Step of search process and number of selected studies in each step



PRELIMINARY RESULTS

Data analysis and synthesis. I carry out a content analysis through a thematic and axial coding. A preliminary analysis allows me to identify the following thematic areas: 1) *decision-making on TM&A*, which includes studies that analyse contextual factors affecting TM&A decision and TM&A choice compared to alternative governance modes such as strategic alliances; 2) *target selection*, comprising researches that focus on target and acquirer's related characteristics for target selection prediction; 3) *integration process*, which includes studies investigating integration strategies, mechanisms and related instruments; and 4) *TM&A outcome*, shows studies examining the impact of TM&A on financial and/or innovative performance as well as firm-, industry-, and process-related factors' effect on TM&A outcomes.

Hence, a conceptual framework is developed, where contributions can be organised into *pre-M&A phase*, *post-M&A integration phase*, and *M&A outcomes*. Contingency factors are taken into account and connections between stages are drawn, thus deriving conclusions on the level of attention devoted by academics to the different phases of M&A process, degree of integration showed in their investigation, and use of multiple performance measurement metrics for the assessment of M&A outcomes.

Keywords: technological acquisitions, M&A, technology, innovation, high-tech, startup, systematic review

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SUSTAINABILITY AND ORGANIZATIONAL AMBIDEXTERITY: A CRITICAL DISCUSSION

Graça, Manuel¹; Correia, Isabel²

¹Faculty of Economics, University of Porto, FEP-UP, Porto, Portugal

²School of Economics and Management, University of Minho, EEG-UM, Braga, Portugal

ABSTRACT

Since James March (1991) pointed out that the organizational processes involved in the exploration of new possibilities and the exploitation of current knowledge and practices are quite different from each other and bring difficulties in resource allocation, the central problem of organizational ambidexterity has been defined around the trade-offs in organizational learning between exploitation and exploration, and the importance of addressing both.

Over the years, quantitative and qualitative studies have shown that ambidexterity translates into firm performance, in particular when firms are dealing with environmental uncertainty. O'Reilly and Tushman (2013) suggest that ambidexterity is closely linked to the long-term survival of the firm, and summarize the findings in the literature into three kinds of ambidexterity: sequential ambidexterity, in which there is a rotation between exploration and exploitation; structural ambidexterity, in which exploitation and exploration are pursued simultaneously through the creation of different sub-units, systems, processes and cultures within the firm; and contextual ambidexterity, in which exploration and exploitation are pursued simultaneously within the same structure, systems and processes, and the resulting tensions and contradictions between the two modes need to be dealt with by individuals according to the specific circumstances they face. The authors further argue that dynamic capabilities is the most appropriate theoretical framework for investigating organizational ambidexterity, in which there is “a complex set of decisions and routines that enable the organization to sense and seize new opportunities through the reallocation of organizational assets” (p.17).

More recently, research on organizational ambidexterity has started to address the implications of an increasing pressure for sustainability. Just like ambidexterity is pervaded by the tension between exploration and exploitation, corporate sustainability involves an intrinsic tension between meeting the expectations of current stakeholders and the need to interest future stakeholders (Dyllick and Hockerts, 2002), as well as addressing economic prosperity, social aspects and environmental concerns (Maletič *et al.*, 2014), the so-called triple bottom lines. Here, firms need not only to be able to offer high-quality products and services, but also to balance economic prosperity with social and environmental issues. Despite the increasing co-implication of the two concepts, there have been very little attempts to link them (e.g. Sulphrey & Alkahtani, 2017), and some have even

argued that ambidexterity research has difficulties in incorporating the new context of sustainability (Du *et al.*, 2012). Most studies, however, focus on only one dimension of corporate sustainability – economic performance – thus bypassing the multidimensional nature of the concept and the need to balance economic, social and environmental concerns.

The emphasis on sustainability has translated in the emergence of the new concepts of green organizational ambidexterity and eco-innovation. Chen *et al.* (2014) introduced the concept of green organizational ambidexterity, defined as “the ability to integrate and reconcile both exploratory and exploitative environmental activities” or “the capacity to simultaneously generate exploitative and exploratory green innovations” (p.7789). The authors suggest that exploitative and explorative activities must be integrated at a strategic level in order for green organizational ambidexterity to become a dynamic capability. ‘Green shared vision’ and ‘green absorptive capacity’ are presented as green ambidexterity antecedents and ‘green radical innovation performance’ and ‘green incremental performance’ as consequents. Regarding exploratory environmental activities, in particular, these may include fundamental design changes in products and processes (for example, eco-design, and assuming the responsibility for the environmental and social impacts of operations) and even considering the possibility of developing new products and services that have no negative impacts on the environment and the society (Jakhar *et al.*, 2020). As for the concept of eco-innovation, the idea is that adopting greener and more efficient technologies in the use of resources, as well as designing greener products, require innovation in most of the cases, so as to minimize environmental impacts. Like in any innovation, this, in turn, requires specific knowledge, attention, capabilities, resources and coordination for their development and adoption (Kemp and Oltra, 2011). Given the high level of uncertainty attached to eco-innovations, dynamic capabilities emerge as crucial to eco-innovation processes, through recombining existing knowledge and acquiring new knowledge, and the novel concept of green dynamic capabilities has been coined as a result (Chen and Chang, 2013), defined as the ability of organizations to achieve sustainable and green development in a constantly changing environment. It should be stressed that eco-innovation has an exploratory orientation, and that despite the potential to create new possibilities, exploration often produces early failures, constrains firms’ performance in the short term, and its returns are uncertain, distant and delayed (Chen, 2017).

In this paper, we argue that existing approaches to organizational ambidexterity, as well as to the implications arising from the sustainability agenda, including the above mentioned green organizational ambidexterity and eco-innovation, fail to address the power dimension involved. We then offer a critical discussion of these approaches informed by the Foucauldian notion of ‘discourse’ aimed at uncovering the power-knowledge relations that permeate them.

Keywords: Organizational ambidexterity, Sustainability, Eco-innovation, Green ambidexterity, Process, Practice, Critical.

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A FRIEND OR FRENEMY? THE ROLE OF DIGITAL TOOLS FOR STRAINED GOVERNMENTAL SERVICE PROVIDERS UNDER PANDEMIC OUTBREAK

Henk, Anastasiya; Nilssen, Frode

Business School, Nord University, Bodø, Norway

ABSTRACT

The outbreak of the COVID-19 pandemic caused a series of problems and challenges for states, businesses and individuals alike. Besides the serious danger that the virus caused for individuals, lockdown measures caused a difficult situation for many individuals and families. As many people lost their income due to termination and bankruptcies in private enterprises, the state's social security system faced great challenges with providing help and financial support to an extremely high number of customers. One of the serious challenges that the national social security faced related to the limited capacity to cope with the unprecedented high number of customers inquiries. Many of the social security system customers found themselves in an utterly desperate situation. In addition, many of them also fall into the category of rather digitally incompetent population who must rely on personal communication and assistance from a human work force.

The Scandinavian countries are among those with a well-developed social security system. Nevertheless, the systems were completely unprepared for the situation that the pandemic caused. An external shock like this put the system in a situation with being seriously under-manned and unprepared to handle the rapidly increasing demand for service and assistance. Prior to the pandemic outbreak, the one of the Scandinavian social security systems (SSSS) had implemented the use of an anthropomorphic chatbot Fredrik, just a few years prior to the pandemic outbreak. The chatbot was meant to mainly handle mundane routinized tasks. A key question that arose early in the pandemic was whether the chatbot would be accepted by the customers as a substitute for humans in a very socially distressing situation and how to increase the use of technology by citizens. As the pandemic proceeded, the SSSS top management experienced that the chatbot managed to take care of a large amount of all the extra workload caused by the pandemic, thus letting employees focus on more complicated and sophisticated cases, and diversifying their everyday tasks and communication channels.

Being an empirically driven piece of research, this paper explores the role of digital technologies in coping with the pandemic outbreak. Building on the premises of micro-foundations of the theory of dynamic capabilities (Piening, 2013, Pablo et al., 2007), this paper contributes in several ways. First, it provides a dual perspective (management vs. frontline workers) on the changes in the organizational environment and challenges imposed to the service by the pandemic outbreak and full lockdown in

the country. Second, it addresses the need for adjustment in organizational routines and allocation of resources and demonstrates the changes in managerial practices during the pandemic outbreak. Finally, it explains the role of digital technologies (chatbot and digital communication channels) in development and deployment of dynamic capabilities by public sector organizations in their operational area (Loureiro et al., 2021, Fernandes et al., 2017).

Keywords: coping strategy, dynamic capabilities, digitalization, chatbot, pandemic

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SOCIAL MEDIA INFLUENCERS: BRAND FIT AND COMMUNICATION STRATEGY ROLES

Huttula, Tia; Karjaluoto, Heikki

School of Business and Economics University of Jyväskylä, Jyväskylä, Finland

ABSTRACT

Influencer marketing practices are growing on social media channels, while the usage of other mass-media channels is decreasing, prompting organisations to search for new tools to communicate efficiently with their target audiences (Bakker, 2018; Vrontis *et al.*, 2021). Consumers trust peer-reviewed content; influencer content, also perceived as trustworthy and credible, is considered to have the same impact. Influencers can affect purchase intentions if the audience identifies with them (Bakker, 2018; Enke & Borchers, 2019). For a successful collaboration with an influencer, the organisation needs to ensure that the brand fit is suitable, as the audience will become suspicious if the paid collaboration is too apparent (Bakker, 2018; Charlton & Cornwell, 2019). In addition, an organisation can ask the influencer to perform different roles during the collaboration, depending on that organisation's goals for the collaboration, such as content creator, public persona and content distributor (Enke & Borchers, 2019, Vrontis *et al.*, 2021).

The research on influencer marketing has exponentially increased in the past years but the strategic assessment of influencers as a marketing tool has gained only little attention (Vrontis *et al.*, 2021). The objectives of this study, therefore, are to gain an understanding of the SMI selection process in an organisation and to discover how organisations use SMI communication in their communication strategy. In more detail, discover how organisations ensure brand fit with the social media influencer (SMI) and identify the roles fulfilled by the SMI in a collaboration with an organisation.

To gain an understanding of the research topic, qualitative research was conducted by interviewing organisations as well as media and influencer agencies. Comparing the findings with previous research, two main implications were found. First, to ensure brand fit, the SMI's target audience is carefully checked to see if it matches the organisation's target audience; the values and content of the SMI are then checked to understand their character. The second implication is that the SMI's roles, among others, are those of content creator and protagonist. Theoretical implications suggested additional steps in the SMI selection process to ensure the brand fit more accurately; there were also implications that extensive use of the SMI's roles would reach more effective outcomes.

Keywords: Influencer marketing, Social media Influencer, Communication strategy, Marketing strategy, Brand fit, Influencer roles

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PURCHASE INTENTION FOR LUXURY FASHION BRANDS: THE IMPACT OF CELEBRITY ENDORSEMENT ON GENERATION Z CONSUMERS DURING COVID-19 PANDEMIC

Jailani, Norliana¹; Vignali, Gianpaolo¹; Wahib, Norhayati²

¹Department of Materials, The University of Manchester, United Kingdom

²Faculty of Business, Accountancy and Social Sciences, Kolej Universiti Poly-Tech MARA, Kuala Lumpur, Malaysia

ABSTRACT

Celebrity endorsement through Instagram is a popular social media marketing strategy due to its uniqueness that keeps viewers' attention and plays a dominant role in the consideration set of purchase intention formation. This article aims to provide a conceptual framework that explains the impact of celebrity endorsement (source credibility, source attractiveness, match-up hypothesis, and meaning transfer) on the consumers' purchase intention of luxury fashion brands during the Covid-19 pandemic among Generation Z consumers in Malaysia. Following the latest developments in social media besides its relevancy to Generation Z, this study emphasises the use of Instagram to get credible findings. The researchers employ a quantitative survey design based on non-probability sampling to achieve our research objectives. The sample size in this study consists of four hundred Generation Z luxury fashion brands' consumers who play a part in contributing to the reliable findings. A questionnaire is distributed using a structured questionnaire through an online survey tool, Qualtrics. IBM Statistical Programme for Social Sciences (SPSS) will be carried out to help researchers to test the hypotheses. This article will be useful to academics and marketing practitioners since it will provide a thorough understanding of purchase intention and its relationship to its factors. Further study for empirical testing and validation may be built from this manuscript.

INTRODUCTION

Celebrity endorsement prevailing a role in the consideration set of consumers' purchase intention formation due to its uniqueness that keeps viewers' attention through social media. Celebrities' presence intensely impacts brands' awareness and intrinsic value via social media and attains influence power through movies, music, and sports. As such, celebrity endorsement marketing activities inspire today's culture and society and promote one's purchase intention (Lu and Seah, 2018; Schimmelpfennig and Hunt, 2020). Instagram is among the popular social media platforms that form persuasive information sources (Jin, S. and Phua, 2014). Instafamous (Instagram famous) 's emerging trend demonstrates that influencers with greater social influence have more followers, and their

popularity makes some with the highest fans become celebrities (Jin, S. and Phua, 2014; Jankowski, 2021).

Younger followers see the positive electronic word of mouth (eWoM) from Instafamous' as credible sources, and brands use their fame as a marketing strategy tool in promoting via endorsement to enhance sales (Chun, H., Lee, H., and Kim, 2012; Vidyanata, D and Hadiwidjojo, 2018). Generation Z is the digital native that engages with digital content for nearly 4.5 hours, liking, reading and sharing content daily. Due to the Covid-19 pandemic, brands utilise social media marketing importance, extensionally leading to the growth of social media behaviours, helping to form consumers' purchase intention (Mason, Narcum and Mason, 2021).

The outbreak of Covid-19 has altered how celebrity endorsement influences consumer behaviour in luxury brands. Celebrity endorsement and purchase intention have drawn increasingly scholarly attention across the fields. People's interaction with celebrities had and continues to impact their luxury consumption before and during the Covid-19 pandemic. In congruence with luxury brands/products, the preferable endorser qualities (Schimmelpfennig and Hunt, 2020) among the Malaysian community are limited. The studies on the new phenomenon led to the expansion of this research.

This paper aims to understand the impact of celebrity endorsement (source credibility, source attractiveness, match-up hypothesis, and meaning transfer) on the consumers' purchase intention of luxury fashion brands' during the Covid-19 pandemic among Generation Z consumers in Malaysia. Consequently, the research study has two main research objectives: 1. to examine the effects of celebrity endorsement categories; source credibility, source attractiveness, match-up hypothesis, and meaning transfer on consumers' purchase intention during the Covid-19 pandemic; 2. to examine the correlation between celebrity endorsement and purchase intention within Generation Z. To fill the gap, there is a need to understand on how celebrity endorsement influences buying behaviour of generation Z consumers in Malaysia when purchasing luxury fashion brands during Covid-19.

METHODOLOGY

The quantitative methods are the most useful for assessing the behaviour of individuals (Creswell, 2014). The measurement of variables used in this research was adapted and adopted from previously established and validated scales. The researchers employ a quantitative survey design using a structured questionnaire through an online survey tool, Qualtrics. The 7-point Likert-type scale was used for questionnaire items, with "1" indicating "strongly disagree" and "7" indicating "strongly agree." Non-probability sampling is used to increase the response rate. Four hundred Generation Z luxury fashion brands' consumers play a part in contributing to the reliable findings. Implementing

regression analysis using IBM SPSS statistics helps researchers test the hypotheses. No empirical data is present in this manuscript, as the study is currently in the data-gathering phase.

CONCLUSION

This study will grant new insights into how celebrity endorsement influences buying behaviour of Generation Z consumers in Malaysia when purchasing luxury fashion brands during Covid-19. This study will contribute to the knowledge of how Covid-19 affected consumer luxury brand consumption. The findings extend valuable insights into the literature development and propose critical managerial implications for luxury brand marketing managers. It is vital to understand the most attractive characteristics of celebrities that drive purchase intention among the Generation Z luxury consumers market segment in creating strategy and managing the brands' sales performance. Thus, this study should facilitate luxury brands in designing creative marketing strategies for Generation Z and engaging celebrities as a marketing tool to boost their sales and gain visibility for the brand.

Keywords: Quantitative research, Purchase Intention, Celebrity endorsement, Influencer, Social media, Social media marketing, Instagram, Generation Z, Covid-19, Luxury fashion brands

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ARTIFICIAL INTELLIGENCE (AI) IN BUSINESS-TO-BUSINESS MARKETING (B2B): TRIPLE BOTTOM LINE

Jailani, Norliana¹; Wahib, Norhayati²; Vignali, Gianpaolo¹

¹Department of Materials, The University of Manchester, United Kingdom

²Faculty of Business, Accountancy and Social Sciences, Kolej Universiti Poly-Tech MARA, Kuala Lumpur, Malaysia

ABSTRACT

The pandemic has created new vulnerabilities and forced B2B to design new strategies and practices to sustain its competitive advantage. AI is increasingly being used in organizations to support understanding market knowledge and other business functions by improving the quality and speed of decision-making. This study aims to provide a conceptual framework and empirical insight that explains the value of AI adoption in the field of B2B in the textile industry in Malaysia. Following the latest AI developments, besides its relevance to B2B, this study examines how AI technology can be utilised to enable B2B marketing innovation. Despite the rapid growth and importance of AI transforming B2B marketing, academic studies of these phenomena are still in their infancy. Scholars need to explore further academic insights into AI in B2B based upon the *triple bottom line* (TBL) strategy. In addition, previous studies of AI have generally limited in defining or describing the marketing aspect of consumers. A semi-structured interview with the C-level executives is proposed to explore the adoption of AI in B2B marketing to develop a novel framework considering the potential of machine learning, modularity, supply chain integration, and the challenges, and opportunities that come with it. Academics, practical implications, and various stakeholders can benefit from this study since it will thoroughly understand AI and its relationship to its factors. Further study for empirical testing and validation may be produced from this manuscript.

Keywords: Artificial intelligence, B2B marketing, Customer experience, Supply chain management, Knowledge creation, Adoption of AI, Innovation, B2B marketing strategy

A CONFIRMATORY FACTOR ANALYSIS OF COMPETITIVE ENVIRONMENT OF CANNED FRUIT AND VEGETABLE INDUSTRY

Jitprapai, Nutthapon¹; Kheokao, Jantima¹; Krirkgulthorn, Tassanee²; Phovijit, Piriya¹

¹University of the Thai Chamber of Commerce, Thailand

²Boromrajonnai College of Nursing Saraburi, Thailand

ABSTRACT

This research aims to analyze the confirmatory factor analysis of the competitive environment of canned fruit and vegetable industry. Target populations used in this study include canned fruit and vegetable industrial in Thailand using a purposive sampling of 500 data collection. The research instrument used for data collection was a questionnaire developed from the content analysis. Statistical analyses, including the descriptive statistics were percentage, mean, standard deviation. And analytical statistics were tested using confirmatory factor analysis with AMOS program.

The research findings revealed that was composed the competitive environment of canned fruit and vegetable industry of 5 components, i.e., the first component: Rivalry among existing competitors; the second component: Threat of new entrants; the third component: Bargaining power of buyers; the fourth component: Bargaining power of suppliers; and the fifth component; Threat of substitute products. The model had goodness-of-fit with the empirical data which the value of P-value = .059, CMIN/DF = 1.139, GFI = 0.954, RMSEA = 0.017.

Keywords: CFA, Five forces model, Canned fruit and vegetable industry

HOW HAS COVID-19 AFFECTED THE RESIDENTIAL REAL ESTATE MARKET: CASE OF LITHUANIA

Kasnauskienė, Gindrutė; Kubilius, Žilvinas

Department of Quantitative Methods and Modelling, Faculty of Economics and Business Administration, Vilnius University, Vilnius, Lithuania

ABSTRACT

In this article, it is presented how COVID-19 is influencing the residential real estate market in Lithuania. The study starts with a literature review on the research subject to understand the major residential real estate market and pandemics-related issues. However, there is still a lack of robust empirical evidence about this relationship. Two types of research methods – qualitative (experts' interview) and quantitative (construction of regression equation for the quarterly 2011-2021 period data) – were used in order to test two research hypotheses. According to the experts, the COVID-19 pandemic affected the lifestyle of households and changed expectations towards residential real estate. The results of regression analysis allow us to conclude that during the COVID-19 pandemic, the main macroeconomic indicators - GDP per capita, net wages and the consumer price index,- had a significant influence on the prices of residential real estate. This study brings new empirical data to examine some aspects of the COVID-19 pandemic impact.

INTRODUCTION

Strict quarantine conditions in Lithuania and around a strongly connected and integrated world have greatly adjusted people's living habits in ways they had never imagined. The impact of Covid-19 was also felt in the real estate market development. According to Eurostat (2021) during the first wave of the COVID-19 pandemic, the construction index fell by about the same amount as in the five years since the 2008 economic and financial crisis. With severe restrictions at the beginning of the pandemics and uncertainties in the market for a potential home, buyers were concerned about purchasing residential property.

COVID-19 as a humanitarian challenge has also shifted the main macroeconomic indicators such as inflation, average monthly net earnings, unemployment, interest rates and will have long lasting effects. To understand regional differences and anticipate the consequences in the future, national banks and investors in private and public markets need to assess the situation in the local real estate market, (Balemi, Füss, Weigand, 2021). In Lithuania, the amount of money spent per year on housing in 2020 was the largest in history, and the indicators of the beginning of 2021 show that there is no decline in market activity and prices are increasing (Ober-Haus, 2021). Overall, the authors are willing

to contribute to theoretical development in this field by providing an empirical analysis and offering useful insights. The aim of this study is therefore to evaluate the impact of the COVID-19 pandemic on the residential real estate market in Lithuania. The remainder of the paper is organized as follows. Next section further discusses review of existing literature on impact of COVID-19 on real estate market. The following section describes the data, methodology and research design. Next section presents the results of qualitative and quantitative analysis. Last section concludes.

THEORETICAL BACKGROUND

COVID-19 has affected almost all sectors of the economy across different countries in the world including the real estate industry. A number of papers shed light on these issues. The real estate market is an extremely complex concept characterized by unpredictability (Jovanović-Milenković et al., 2020). It also is facing great uncertainty due to pandemic (Nicola et al. 2020). Li and Kao (2022) found that housing prices increased primarily because of a surge in demand and a decrease in supply in the U.S., and the boom of housing prices was spatially heterogeneous. The results of qualitative meta-analysis done by Balemi, Fuss and Weigand (2021) suggest that due to the heterogeneity of real estate and varying transmission channels from initial macroeconomic shocks, all real estate markets are affected in different ways by the outbreak of the virus; and these effects have different magnitudes. What is more, the first wave of the pandemic induced greater diversity in housing investment across countries compared with previous crises, which is partly explained by the varying impact of restrictions along the income distribution (Battistini et al., 2021). Some studies reveal that the recovery in the residential real estate market is linked to the government's fiscal policy measures (D'Lima et al., 2020). Taking into account the growth factors, the unemployment factors and the fixed effect between countries, the real interest rate has a negative, and significant effect on the growth rate of house prices (Yiu, 2021). Since the outbreak of the pandemic, there has been a structural breakthrough in the real estate market, with falling mortgage rates (Cheung, Yiu, Xiong, 2021). Restrictions on COVID-19, stalled flights and restrictions on external operations have led to plant closures in major manufacturing countries (Cai and Luo, 2020). Deng et al. (2015) suggest that public crises such as pandemics have a short-term negative impact on the real estate market but that the effects fade in the long term. However, Zeng and Yi (2022) paper's findings indicate that the epidemic's impact on the housing market is mainly due to the real estate enterprises stopping selling houses and local governments implementing home quarantine measures, which affect normal housing transactions.

Therefore, this research aims to fill the gap in the understanding of COVID-19 influence on the residential real estate market. We aim to address the following research question: What is the real

impact of pandemic on residential real estate market in a small country Lithuania (with a population of 2.8 million)? Thus, based on the review of existing literature, the following hypotheses were stated in this study:

H1: *COVID-19 pandemic affected the lifestyle of households and changed expectations toward residential real estate.*

H2: *During the COVID-19 pandemic, main macroeconomic indicators have changed and had a significant influence on the prices of residential real estate.*

METHODOLOGY AND RESEARCH DESIGN

In order to have a true picture of the impact of Covid -19 on the real estate market in Lithuania, the qualitative and quantitative methods were applied for the purposes of the study. First, a qualitative study was carried out to summarize the opinion of 9 experts on the effects of the COVID-19 pandemic on the residential real estate market in Lithuania. Qualitative research was conducted via an e-mail interview. The structure of the remote interview consisted of three screening questions and sixteen questions on the research topic. The purpose of the screening questions was to identify whether the respondent is included in the selected sample and whether participation in the study is justified.

Based on a synthesis of the literature, data availability and the results of qualitative research, a quantitative study was also performed. In order to assess the dependence of the housing price index on economic indicators and other price determinants specifically in Lithuania linear regression equation was constructed using quarterly 2011 – 2021 period data. The dependent variable of the regression equation was the house price index (base year = 2015), and the independent variables were unemployment rate, GDP per capita, mortgage rate, net salary, number of new dwellings, construction expenses index and consumer price index, each of them explains a unique aspect of the housing price change rates. Several tests were performed to check the suitability of the model: Augmented Dickey-Fuller, Phillips-Perron, Breusch-Pagan, VIF, Ramsey RESET.

MAIN FINDINGS

To determine whether or not the outbreak of the COVID-19 pandemic has brought some effects on housing price changes in Lithuania's real estate market, we first drew changes in housing prices over a year compared to the respective quarter of the previous year graph based on the data from the I quarter 2017 to the I quarter 2022 in Figure 1. It can be seen that the housing prices increased greatly since the start of the COVID-19 pandemic. The combination of low supply and historically low mortgage rates in Lithuania allowed prices to remain steady and froze the real estate market throughout spring 2020, but since summer 2020 the opposite trend was observed and the average

price level of the residential real estate market went up. In I quarter 2022, against I quarter 2021, housing prices grew by 19.1 per cent (Statistics Lithuania, 2022).

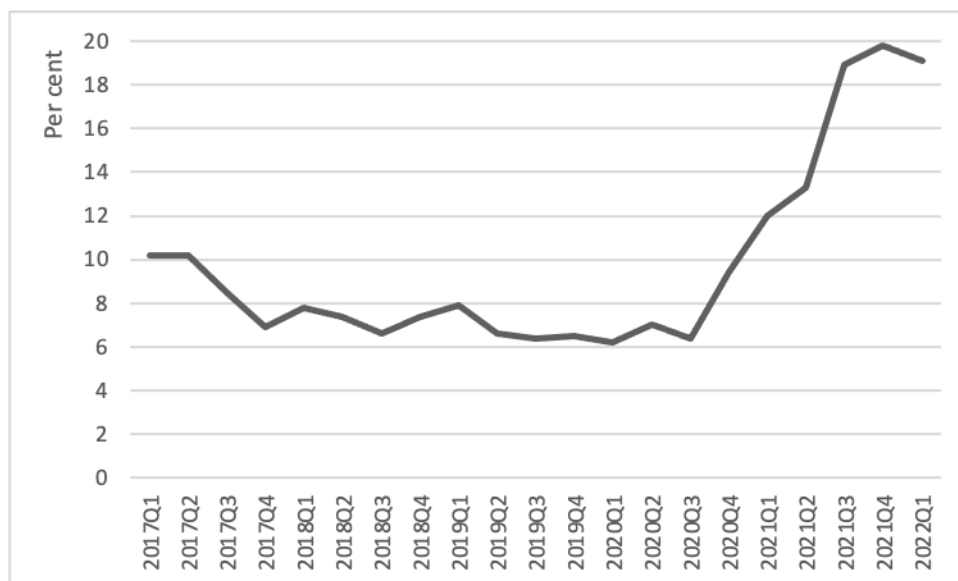


Figure 1. Changes in housing prices over a year compared to the respective quarter of the previous year
Source: Statistics Lithuania, 2022

Furthermore, in the era of pandemics, the needs and expectations of the surrounding home environment have changed significantly. The recent data show that the number of home sales is stabilizing, but the pace of price growth remains accelerated, signs of price overvaluation are emerging and the choice of new housing remains limited (Bank of Lithuania, 2022). Moreover, Bank of Lithuania (2022) does not expect prices to fall in the immediate future; the historically fastest rate of growth in residential construction prices (19.2% in March 2022) and the disruption of material supply chains due to Russia's war against Ukraine are hampering the construction of new housing, which will continue to constrain supply in the short term. The uncertainty of the ending time of the epidemic will affect the investment and decision-making of real estate companies and consumers in the housing market (Zeng and Yi, 2022).

The key findings of our research support what is theorized and both hypotheses stated are not rejected. Firstly, as a result of testing H1 (*COVID-19 pandemic affected the lifestyle of households and changed expectations toward residential real estate*) it was established that the COVID-19 pandemic has shifted the style of life of the households and changed expectations towards residential real estate. Based on the experts' responses, codes were generated that best reflected the content of the response (Figure 2).

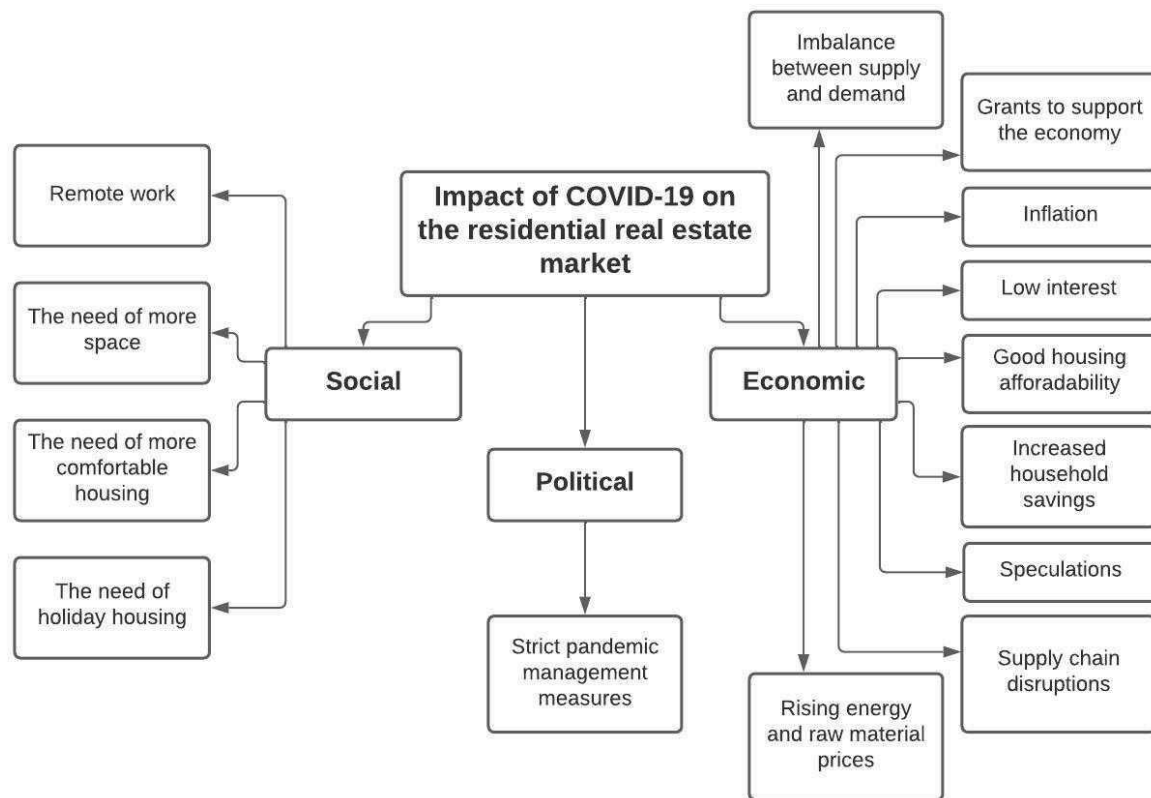


Figure 2: *Impact of the COVID-19 pandemic on the real estate market (results of qualitative analysis)*

Source: Authors' elaboration

The remote work was one of the main reasons why the demand for residential real estate was growing. The distance to the workplace or the city center has become less important. Households have faced inadequate housing characteristics and a lack of space. The importance of quality telephone and internet connection has increased. Due to the above-mentioned social reasons, the demand for houses, cottages, homesteads and apartments that are more spacious has also increased. With strict travel restrictions between countries, holiday in Lithuania has become an alternative.

Experts noted that the fiscal policy pursued by the Lithuanian government contributed to changes in the residential real estate market. A large amount of money poured into the market and settled in the real estate market. According to experts, inflation is one of the most important economic indicators affecting the residential real estate market. Rising energy and commodity prices have accelerated the depreciation of money. However, the purchasing power of households did not decline as average wages rose. Good housing affordability includes savings during the pandemic and a shortage of skilled professionals, which has led to an increase in salaries. Borrowing opportunities have also contributed to activity in the housing market. The COVID-19 pandemics strongly adjusted the prices of construction components. It was mentioned that land, labor and raw materials became more expensive, due to high demand and supply chain disruptions. According to experts, during the

COVID-19 pandemic, an imbalance between the supply and demand of objects in the real estate market appeared. Speculation increased during the pandemic. Apartments were reserved for the purpose of later sale, purchased in cash with immediate payment, and auctions were held.

In order to test the second hypothesis (H2: *During the COVID-19 pandemic, main macroeconomic indicators have changed and had a significant influence on the prices of residential real estate*), a linear regression analysis was performed. The observed results confirmed that four economic variables have the lowest statistical significance of the logarithmic first-order differences: number of completed dwellings, cost element index, unemployment rate, and rates for house purchase, as p -values are more than 5%. The latter independent variables were removed from the model because they are not statistically significant in the context under consideration. An adjusted version of the model was created by removing statistically insignificant variables and including the square of the consumer price index (Table 1). The Y -intercept was removed from the model because it has no economic meaning and was statistically insignificant.

	Coefficient	Standard error	p-value
d_log_bvp_1_gyv	0.09755	0.02773	0.0011
d_log_neto	0.52093	0.10944	2.54e-05
d_log_cpi ^ 2	21.25241	10.22702	0.0442

Table 1. *Adjusted linear regression model*

Source: Authors' calculations

The F -test statistics for the adjusted model indicate that the selected independent variables may explain the dependent variable, the housing price index, in a statistically significant manner. Based on the coefficient of determination, the constructed model explains 59.85% of the variation of the dependent variable (the house price index).

In summary, our model is suitable for prediction of dependent variable (housing price index): the residuals are independent of each other, there is no multicollinearity in the data, and the residuals are homoscedastic (Table 2).

Test	p-value	Conclusion
Breusch-Pagan	0.6101	The residuals are distributed with equal variance at each level of the predictor variable. (homoscedasticity exists).
Durbin-Watson	0.4453	The residuals are independent of each other (no autocorrelation)
Ramsey RESET	0.4123	The functional shape of the model is suitable

Table 2. *Diagnostics of adjusted linear regression model*

Source: Authors' calculations

Notably, our results are generally consistent with past research; the same independent variables of our linear regression equation model (GDP per capita, net wages and the consumer price index) have statistically significant impact on housing prices (Del Giudice at all, 2020; Yiu, 2021; Čiuplytė, 2021).

CONCLUSION

The analysis of the literature showed that during the pandemic, only few aspects of the economy have been left untouched. In addition, remote working became a more permanent feature of our lives. That is why the aspects of housing space, comfort, efficiency, and privacy became more important for the households. Our study revealed that changes, new trends and challenges are observed in the residential real estate market in Lithuania during the era of COVID-19. Rising inflation and inflation expectations have encouraged investment in real estate savings, and low interest rates have allowed commitments to be made on attractive terms. The affordability of real estate objects increased. Reduction of the unemployment rate from 2020 Q4 reduced the loss of household income.

Experts who participated in our study confirmed that the residential real estate market has changed socially, politically and economically due to the COVID-19 pandemic. The model which is based on indicators that changed during the COVID-19 pandemic (GDP per capita, net wages and the consumer price index) has been developed allowing us to predict the housing price index. The authors believe that this research contributes to the expansion of knowledge on real estate market literature and provides valuable guidance for policy makers and residential real estate market players when dealing with crises such as global pandemics.

Keywords: COVID-19, residential real estate market, Lithuanian economy

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FROM THE RESEARCH FIELD TO THE ONLINE CLASSROOM: INCLUSIVE AND COLLABORATIVE ONLINE LEARNING

Kaufmann, Hans Rüdiger¹; Shukla, Shranjani²; Dolores Sanchez Bengoa²

¹University of Applied Management Studies Mannheim, Mannheim, Germany & School of Business, University of Nicosia, Cyprus

²University of Applied Management Studies Mannheim, Germany

ABSTRACT

This paper aims to create and implement a holistic design of a truly inclusive, culturally adapted, and collaborative online learning environment for Vocational Education. The paper is inspired by the REACT Project- 2020-1-DE02-KA226-VET-007926. Besides the well-known painful effects of Covid-19, this pandemic resulted in a dramatic shift in achieving higher adoption levels of digital learning solutions (Dreer et al, 2020). However, this transition requires innovative answers as to how the prevailing base of knowledge and principles of traditional collaborative learning can be transferred into virtual applications and, moreover, as to what extent new technologies might trigger change of existing collaborative learning paradigms (Martin and Bolliger, 2018). The current literature is in a fledgeling stage of a discussion by several authors on the technological advantage of affording new tools and environments to elevate collaborative and inclusive and learning and pedagogical strategies and goals to the next higher level (Resta and Leferriere, 2007). Hence, this paper aims to contribute closing the following gaps: inconsistent literature on the transition of pedagogical principles from face-to-face to online collaborative learning; a lack of recognition of the pedagogical potential of digitalization for collaborative online learning; a lack of effectiveness of educational tools; the need to adjust the design of collaborative learning to different groups and cultures; and better inclusion of learner groups with specific needs and abilities. This mirrors the research objective of the awarded REACT EU-supported Erasmus+ project on Online Collaborative Learning in Vocational Education: the authors and other members of the project consortium aim to propose a comprehensive model on online collaborative learning environments that holistically takes infrastructural factors, pedagogical principles, the interplay between technology and pedagogical principles, cultural differences and inclusion aspects into account to boost the topic onto a more strategic level. To achieve this objective, triangulation research methodology has been applied. The qualitative research part conducted five focus groups representing the five participating countries. The quantitative research part applied the survey method with online questionnaires having been translated into four languages. The main conclusions of the ongoing research suggest putting a pedagogical emphasis on participants' 'hiding (behind the camera) behaviour', increasing the variety in communication and tools, and providing more multicultural and diverse course content from diverse cultural perspectives when designing the

course. Furthermore, particular attention should be paid to the learner's perspective and the specific needs of impaired participants. Based on the research findings, 6 modules have been designed as one intellectual output of the ongoing project. Exemplarily, this paper is focused on Module 2, the learning styles in Collaborative and Inclusive E-classrooms Environment and showcases the consistent and meticulous implementation of the research findings. The module consists of four units contextually embracing Learner centred learning styles (Rasmitadila et al., 2019), Kolb's Learning Concept and Felder Silverman Framework (Shahabadi & Uplane, 2015), Digital Literacy Learning Style (Arono et al., 2022), Course Design for identification of Learning Styles (Agarwal et al., 2022). With these tailor-made content holistically synthesizing literature and research findings, this paper, in more detail, provides a pedagogical skill set of identification and application of different learning styles in the e-classrooms, the basic understanding of AI algorithms used to identify learners' motivation and satisfaction, and the use of different instructive strategies to overcome the 'hiding behaviour' and increase the scope of communication and tools for all the culturally diverse students. Solutions for students with learning disability (inclusive groups) are provided through the efficient utilisation of digital learning styles with the help of multimedia and assistive technologies. The five senses simulated methods of transferring knowledge with techniques of exercises, quizzes and case studies are also integrated. Another unique preposition of this module is the provision of all the educational material in presentations, handbook pdfs, videos, and blogs embodiment. The learners' acquirement of knowledge in three linguistics modalities is considered. The limitations of the research refer mainly to a lack of differentiation between the involved countries/cultures due to a relatively small sample size. For further research, it is suggested to replicate the results on 'hiding behind the camera'. Especially, it would be interesting to know if 'hiding behind the camera' would have a measurable impact on the VET training success compared to the proactive and always 'visible' learners.

Keywords: Online Collaborative Learning Environment; Vocational Education; Inclusion

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SOCIAL MEDIA MARKETING IN HIGHER EDUCATION: LOYALTY, ENGAGEMENT AND THE MODERATING ROLE OF GREEN CONSUMPTION VALUES

Konstantoulaki, Kleopatra¹; Rizomyliotis, Ioannis²; Giovanis, Apostolos²

¹Business Administration Department, University of West Attica, Athens, Greece

²Department of Early Childhood Education and Care, University of West Attica, Athens, Greece

ABSTRACT

The growing competitive environment in the higher education sector, declining government financial support, and changes in teaching itself (Bhattacharya and Faisal, 2020; Santos et al., 2020; Schlesinger et al., 2021; Williams and Omar, 2014) have highlighted the importance of developing sustainable branding strategies (Spry et al., 2018). As a service industry, higher education not only educates and develops students (Clark et al., 2016), but also benefits its stakeholders, such as prospective students, parents, faculty, and alumni (Bhattacharya and Faisal, 2020; Snijders et al., 2020). Higher Education Institution (HEIs) administrators increasingly recognize the need for brand management and marketing (Williams and Omar, 2014). Therefore, it is increasingly important for HEIs to use different strategies and channels to reach a broader range of students and stakeholders to foster or maintain brand loyalty (Santos et al., 2020). HEIs are guided by market orientation, so brand loyalty is regarded as a vital indicator of HEIs performance (Snijders et al., 2020). Similarly, HEIs desire to maintain long-term relationships with their stakeholders, so retaining existing students is just as important as attracting new ones (Garza Salgado and Royo Vela, 2019; Santos et al., 2020). Since the COVID-19 pandemic, HEIs have faced the challenge of obtaining student brand satisfaction and loyalty without physical interactions, so the branding of the educational sectors is turning more to digital media platforms (Bhattacharya and Faisal, 2020), like social media.

Social media is a major means of communication (Berthon and Pitt, 2008) that is used to engage audiences at a very high frequency (Clark et al., 2016). According to Statista (2021a, 2021b), over 3.6 billion people use social media and spend an average of 144 minutes per day. In the UK in 2021, 16 to 24-year-olds were the largest group using social media sites or apps (Statista, 2021c). Due to the high level of familiarity and usage among this age group, social media is particularly essential when considering how to convey HEIs information and interact with students (Clark et al., 2016). Social media can be a way for students to search for school-related information and build long-period relationships (Bhattacharya and Faisal, 2020). Also, social media marketing activities (SMMAs) can lead to lower marketing expenses and a rising market curve for HEIs. Hence, HEIs have realised the need to not only provide better services, but also stimulate students and stakeholders to engage with the

brands (Waqas, 2021). Through social media, HEIs strive to provide students with the updated knowledge and insights of their interests. In return, they give feedback on the quality of services and facilities (Bhattacharya and Faisal, 2020).

At the same time, environmental consciousness has tremendously increased in recent years and HEI have embraced sustainability strategies (Lin et al., 2017). The rise of green behaviours has led to significant changes in the way customers behave and remain loyal to brands (Rizomyliotis et al., 2021). This also applies to the higher education sector, making its brand-building more challenging. As the educators of the majority of society's leaders, HEIs have a significant responsibility to increase the awareness, technologies, and tools necessary for a sustainable future (Finlay and Massey, 2012). Green branding is recently acknowledged as an essential component of green brand positioning that can lead to significant competitive advantage (Lin et al., 2017). Still, research in higher education remains limited. Furthermore, given the emerging trends toward green consumption values (GCV), just as the relevant brand marketing practices are not yet substantiated in the HEIs, further investigation of their role in sustaining BL is needed. Therefore, this current study is an attempt to fill these gaps. For the purpose of the study, a questionnaire was developed, and a field study was conducted in order to empirically test the research hypotheses and produce generalizable results. The results confirm that both social media marketing activities and student engagement can positively affect HEIs brand loyalty, and adds new knowledge by providing evidence that green consumption values can negatively moderate the effect of student engagement on brand loyalty. On the basis of the results managerial implications are offered and suggestions for future research are also discussed.

Keywords: Green Consumption Values, Brand Loyalty, Social Media Marketing, Engagement

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EXPLORING THE IMPACT OF COVID-19 ON SPONSORSHIP

Koronios, Konstantinos¹; Ntasis, Lazaros²; Dimitropoulos, Panagiotis²; Thrassou, Alkis³

¹Department of Accounting and Finance, University of Peloponnese, Kalamata, Greece

²Department of Sport Organization and Management, University of Peloponnese, Sparta, Greece.

³Department of Marketing, University of Nicosia, Nicosia, Cyprus

ABSTRACT

The Covid-19 epidemic posed grave health hazards and had a global impact on education, industry, pleasure, and athletic events. Acknowledging a research gap concerning the procedure of sport sponsorship in moments of irregularity and insecurity (i.e., the COVID-19 pandemic), the purpose of this research is to assess consumers' awareness of and attitudes toward sponsoring companies and to propose a framework for their purchase intentions toward real sponsoring firms of a large-scale sport tournament during such an emergency. The study employed a quantitative approach, collecting and analyzing a total of 1,582 responses. According to the findings, spectators' purchase intention is significantly influenced by variables such as sport involvement, social media use, sincerity, attitudes about sponsorship, and Covid-19 emotions.

INTRODUCTION- AIM OF RESEARCH

Many nations have implemented lockdown and/or social distancing policies to slow the spread of COVID-19 since the World Health Organization (WHO) revealed the coronavirus (COVID-19) outbreak. Individuals were encouraged to remain at home and limit outdoor activities. It is undeniable that a period without (or with low) live sport consumption posed several issues for the sports sector, notably in the context of sponsorship agreements. For sport organizations worldwide, the interruption, postponement, or restriction of scheduled activities posed challenges in terms of reengaging spectators in their games, not just during the pandemic, but perhaps also post-pandemic. The impact of the COVID-19 epidemic on sports in general, and sponsorship in particular, have only been the subject of a very few research to far. Accordingly, in order to fill this - hopefully only temporarily - absence of available literature, this research examines the most critical elements of COVID-19 for sport sponsorship, from the standpoint of spectators. This is a critical part of providing sport executives with a framework or roadmap for increasing the efficacy of sponsorship agreements during a crisis.

THEORETICAL BACKGROUND

Involvement is defined as an individual's assessment of the significance of an item in light of that individual's interests, values, and objectives. Individual features, environmental conditions, and

product or stimulus attributes all influence it. Sport involvement is a valuable term for analyzing sports spectators' behavior and attitudes. Spectators with a high degree of involvement are more inclined to pay attention and put up more attempt in interpreting information (Dos Santos et al., 2020).

During the Covid-19 crisis, social media has further strengthened its already widespread influence in community. Individuals have become increasingly (e-) interconnected as a result of social distance measures. Furthermore, social media provide a prompt and effective mechanism of affecting customer conceptions, recognizing customers' requirements, and able to engage in purposeful two-way interactions with customers, allowing sponsoring companies not just to connect with sports fans, but also to join in dialogues where these fans, or customers, are already conversing (Gillooly *et al.*, 2017).

Individuals' skepticism regarding sponsorship agreements and the perceived sincerity of sponsoring companies has grown as sport has become more commercialized. According to Rifon et al. (2004), individuals may perceive a company's sponsorship of a sport entity as a technique to achieve marketing goals rather than a sincere form of assistance. As a result, the sincerity of sponsors should be investigated as part of a holistic sponsorship framework.

Individuals' perceptions of sponsorship goals are used to determine beliefs. Koronios *et al.* (2021) proposed that fans form positive or negative beliefs regarding the benefits of sponsorship for the sport entity: some people may appreciate the benefits of sponsorship (i.e. supporting the club), while others may see it as an element changing the true essence of sport in order to promote commercial objectives. As a result, they may be prone to form unfavorable perceptions of sponsorship

Sporting events frequently serve as a trigger for spectators to develop specific views, emotions, and intentions. Expected emotions (both good and negative) serve in the explanation of intents and behavior. Researchers also explored at how COVID-19-related negative and positive emotions could impact an individual's decision to engage in an action (Kaplanidou *et al.*, 2021). When attempting to anticipate attitudinal and behavioral intents, negative emotions such as fear and positive emotions such as optimism (Kaplanidou *et al.*, 2021) should be taken into consideration.

The present paper suggests a new framework for sponsorship, based on a review of the literature, exploring - for the first time - how Covid-19 related variables influence the effectiveness of sponsorship in sport. Based on the above, the following model and hypotheses are proposed:

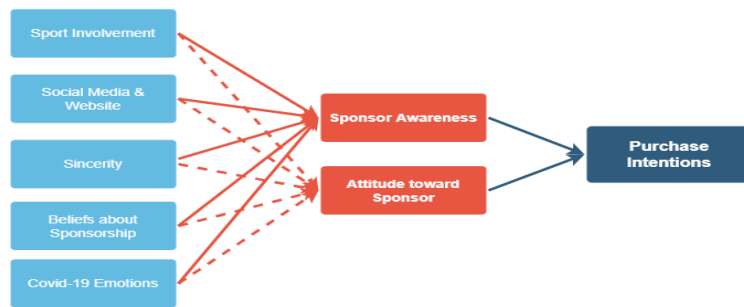


Figure 1. Proposed model

H₁₋₂: Sport involvement is expected to affect respondents' attitude toward sponsor and their awareness of sponsors

H₃₋₄: Social Media and Website use by respondents is expected to affect their attitudes toward sponsors and their awareness of sponsors

H₅₋₆: Sincerity of the sponsor is expected to affect respondents' attitudes toward sponsor and their awareness of sponsors

H₇₋₈: Beliefs about sponsorship are expected to affect respondents' attitudes toward sponsor and their awareness of sponsors

H₉₋₁₀: Emotions regarding Covid-19 are expected to affect respondents' attitudes toward sponsor and their awareness of sponsors

H₁₁₋₁₂: Respondents' Awareness of and Attitude toward Sponsors is expected to affect their purchase intentions

METHODOLOGY, RESEARCH DESIGN AND DATA ANALYSIS

For the aims of the study, a quantitative methodology was employed, and online surveys were gathered from spectators of the 2020 Olympic Games in Tokyo, Japan. SPSS and AMOS were used to analyze 1,582 surveys that were successfully completed.

RESULTS, DISCUSSION AND IMPLICATIONS/CONCLUSIONS

The sample of the study consisted of 1,582 respondents, with the 61.9% of them being male and the 38.1% female. Most of the respondents were between 23 and 41 years old (n=751, 47.5%) while 21.9% (n=346) were between 43 and 53 years old. Fewer participants were between 19 and 22 years old (n=109, 6.9%), under 18 years old (n=77, 4.9%) and over 54 years old (n=299, 18.8%). The Exploratory Factorial Analysis (EFA) was performed in order to investigate the factorial structure of the questionnaire and the Kaiser-Meyer-Olkin (KMO) test to assess if the data had been appropriate for the analysis. Varimax rotation was applied to explore the factorial validity of the questionnaire. Confirmatory factor analysis (CFA) was utilized to test the reliability and validity of the variables. The hypothesized relationships of

the model were analyzed via the use of Structural Equation Modeling (SEM). Confirmatory factor analysis showed that all the utilized scales had satisfactory adaptation. Specifically, Explanatory Factor Analysis indicated an index KMO>0.8 for all scales. The variance of the data explained by factors varied from 72.1% to 83.7% for the 8 variables. CFA showed that all the scales had: Normed $\chi^2 < 1$, RMSEA < 0.1, NFI > 0.95 and CFI > 0.9. Finally, strong correlation existed between the Covid-19 emotions and sponsor attitude (0.817). Furthermore, the rest variables' correlation coefficient ranged from (0.170) to (0.423). Moreover, all the suggested hypotheses were confirmed by the structural equation model (SEM) findings (H₁-H₁₂).

Table 1: Structural Equation Model Weights

Affect				b	p	Result
H1	Sport involvement	→	Sponsor awareness	0.184	<.005	S
H2			Sponsor Attitude	0.116	<.001	S
H3	Social Media Use	→	Sponsor awareness	0.529	<.001	S
H4			Sponsor Attitude	0.211	<.001	S
H5	Sincerity	→	Sponsor awareness	0.291	<.005	S
H6			Sponsor Attitude	0.177	<.001	S
H7	Beliefs	→	Sponsor awareness	0.306	<.001	S
H8	sponsorship		Sponsor Attitude	0.194	<.005	S
H9	Covid-19 emotions	→	Sponsor awareness	0.614	<.001	S
H10			Sponsor Attitude	0.601	<.001	S
H11	Sponsor Awareness	→	Purchas intention	0.529	<.001	S
H12	Sponsor Attitude	→	Purchas intention	0.471	<.001	S

S= support and R= reject

Keywords: sponsorship, covid-19, attitudes, behaviors

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COLLECTING TRAVELLING EXPERIENCES: A NEW TRAVELLING MINDSET AND THE ROLE OF ICTS

Kostopoulos, Ioannis¹; Magrizos, Solon²

¹Liverpool John Moores University, Liverpool, United Kingdom

²The University of Birmingham Edgbaston, Birmingham, United Kingdom

ABSTRACT

While literature on experiential tourism suggests that travellers are increasingly more interested in unique, extraordinary and collectable experiences, little has been said about nature and dynamics of tourists seeking to add destinations or travelling experiences to their collection. Using collecting as the main theoretical lens, we re-conceptualise frequent travellers as collectors of travelling experiences and explore how these travelling behaviours are having a prominent impact on travellers' well-being and their economic, environmental and social sustainability. Findings from our 22 in-depth interviews with frequent travellers indicate that this is a pervasive and prevalent process across many tourists. They also uncover the stages, sub-processes and characteristics of the collecting travelling experiences process. Based on these findings, we discuss tourism organizations, local authorities and policy makers can apply the produced framework to understand frequent travellers' behaviour and and facilitate more sustainable tourism practices.

1. INTRODUCTION

New advancements in information and communications technology (ICT) have completely transformed the global tourism landscape (Kumar et al., 2019). New practices in distribution channels (Berne et al., 2015), more sophisticated tourism yield management techniques (Ramos & Rodrigues, 2013), new collaborative consumption tourism platforms (Gössling & Hall, 2019) and an increased emphasis in developing smart tourism destinations (Wang et al., 2016) are just a few of the significant changes that have occurred in the past few years. These drastic changes have enabled four new seemingly unrelated tourism practices with important implications for the well-being of travellers and the sustainability of visited destinations. The first is the rapid adoption of *bucket-list tourism*, in which travellers create lists of desirable tourism destinations (Thurnell-Read, 2017). The widespread emergence of books, articles and websites cataloguing the 'top-100 cities to visit' or 'top-10 most beautiful lakes' has also sparked this adoption. Second, social media has glorified tourism and increased mobility (Gössling, 2017), sending people around the globe hunting for the most likeable and shareable photos with the aim to post appealing content online (Dedeoğlu, Taheri, & Gannon, 2020). As such, many travellers now look for the most exciting, unique and extraordinary places to

visit so that they can share their experiences online (Varnajot, 2019). Third, the emergence of dedicated sites, Facebook groups and sharing platforms (e.g. couchsurfing) has brought together like-minded people and created a sense of community around authentic, responsible and sustainable tourism (Lee, Reid & Kim, 2014). Finally, websites such as Most Traveled People, Nomad Mania and Country Counter have enabled competitive tourism in which visits to destinations are listed, enumerated and turned into points to compare with other travellers on the sites' leader boards. Several other ICT platforms, such as review sites and frequent-flier programmes, have also enhanced this latter phenomenon (Gössling, 2017).

This study aims to bring together these and other distinct tourism behaviours that have emerged from recent changes in ICT and makes a contribution by arguing for the need for a more holistic exploration of these new travelling practices. We conceptualise a distinct group of frequent travellers not as tourists but as collectors of travelling experiences motivated by the desire to add unique items (i.e. destinations) to their collection and enabled by new advancements in ICT. Collecting is a process that involves acquiring, possessing and bringing together objects to construct a subjective world (Baudrillard, 1994) and is associated with many tangible items, such as music albums and sport cards (Holbrook, 1987; Martin & Baker, 1996), and intangible experiences, such as going to concerts and visiting restaurants (Belk et al., 1988; Keinan and Kivetz, 2011). Studies have also indicated that people collect *destinations*, such as cities or countries (Timothy, 1998); *specific places*, such as World Heritage Areas (King and Prideux, 2009), golf courses (Baxter, 2007), 'haunted' places (Coulombe, 2004), stadiums, and beaches; and *events and activities sets*, such as "festivals, religious experiences, nature migrations or sporting events" (King and Prideaux, 2010, p. 237).

Our proposed conceptualisation helps explain the incompatibility of the tourism sector's growth with the need to globally reduce carbon dioxide emissions (Font and McCabe, 2017) and helps answer why more people travel, more often and more far away (Gössling et al., 2013), even while sustainability concerns have increased. Moreover, it addresses the complicated nature of travellers' well-being, which increases when tourism assuages negative feelings such as loneliness, homesickness and need for social interaction (Sabatini and Sarracino, 2017) but decreases from travel-related stress from constant social comparisons (Krasnova et al., 2013) and the fear of missing out (FOMO) (Przybylski et al., 2013). Furthermore, by treating travelling as a collecting practice and not as a leisure activity, we show that some travellers spend considerable amounts of money and effort to visit destinations only to gain bragging rights and cross destinations off their list (Kerr, Lewis & Burgess, 2012). Finally, we help alleviate the contradiction of 'competitive' tourism in which people aim to increase their standing in rankings but, at the same time, exchange knowledge and tips with each other to enable further travelling.

Our conceptualisation is different from but complementary to that of competitive tourism (Gössling, 2017). Collectors are not just accumulators of items and experiences but passionate consumers who display intense devotion to pursuing the consumption of the collectable experience (Holbrook, 1987), reaching to points of addition and obsessive behaviour (Danet & Katriel, 1989). Collecting can be competitive but also collaborative, as collectors form social networks in which collecting knowledge is exchanged and close relationships are formed (Spaid, 2018). Sharing new possessions with this community helps others recognize a collection as worthwhile, and therefore it 'legitimises' a practice that might otherwise be considered abnormal (Belk & Wallendorf, 1990; Scaraboto et al., 2016). Thus, our comprehensive conceptualisation and exploration of travelling as a collection process contributes to the literature by identifying a unique behaviour with important characteristics. We also recognize that while collecting destinations may not be a new phenomenon, ICTs have drastically changed how collectors of travelling experiences plan their trips, travel and interact with others. On this basis, this study's main research objectives are to (a) *conceptualize and explore the underlying procedures and main characteristics of the process of collecting travelling experiences* and (b) *investigate the role of ICTs in these process*. Answering these research questions is important because it can offer practitioners a framework to understand motives and behaviours of collectors and better design services to accommodate them. It may also prove useful for policy makers interested in reducing the carbon footprint of frequent travellers and to researchers focusing on the well-being of travellers.

2. COLLECTING TRAVELLING EXPERIENCES

Early research on collecting has identified travelling experiences as a common, though intangible, collectable (Belk et al., 1988). Specifically, many people like to collect aspects of a generally larger tourist experience (Sarmiento & Lopez, 2018), specific places in the destinations they visit (Baxter, 2007) or even whole destinations (Woodside et al., 2014). This tendency has been recognized and exploited by travel agencies and trip organisers, who design and sell trips that help travellers expand their collections (King & Prideaux, 2010). According to the literature, the psychological mechanisms behind collecting experiences are equivalent to those behind collecting tangible goods and relate to individuals' need for accomplishment, progress and self-enhancement (McIntosh & Schmeichel, 2004). Ample evidence in extant literature supports the phenomenon of collecting destinations, places and touristic experiences. Belk (1991) explains how stamp and travel book collections can metaphorically help people 'acquire' other places, linking the process of collecting places to the acquisition of specific tangible objects. Other scholars have focused on visiting destinations as a form of collecting and emphasized the competitive nature of this type of collecting. For example, Timothy (1998) and Sarmiento and Lopez (2018) regard collecting places as the process of counting visited destinations and

actively trying to increase the number for competitive reasons. Following a different approach and focusing on the travelling aspect of the process, rather than the collecting one, tourism researchers have introduced the conceptually close notion of competitive travelling, which is a form of travelling associated with increased mobility, more frequent and shorter trips and competitive tendencies (Gössling & Stavrianidi, 2015; Gössling, 2017).

Previous work provides support for using a collecting lens in the tourism literature; our attempt treats collecting travelling experiences as a holistic process that involves a range of different motives and behaviours. We are therefore interested in going beyond the association of collecting places to the acquisition of physical items, as people do not necessarily need to travel to collect stamps, souvenirs or coins. Moreover, we acknowledge that people's travelling experiences are deeper than the landscapes seen or the items bought and more complicated than the number of visited countries. A travelling experience includes interactions with local peoples and cultures, the activities engaged in, the feelings generated and many more dimensions (Volo, 2013). Finally, we attempt to go beyond competitive tourism, recognising that while a competitive attitude is a major motive for developing a collection of experiences (McIntosh & Schmeichel, 2004), it is not the only one. The need for connection, self-progression, gratification, memory management and sharing may also be motives.

Various researchers have highlighted the importance of ICTs for collectors as digital technologies have transformed "meaningful practices of acquisition, curation, and exhibition" (Watkins, Sellen & Lindley, 2015; p.3423). Specifically, the role of ICTs in collecting is threefold. First, ICTs facilitate the connection of like-minded collectors (Geismar, 2013). People have always collected objects, but in the past finding a fellow collector of the unique set of items was possible only at specialized fairs and exhibitions—if ever. Now Facebook groups, blogs and apps for collectors offer unique opportunities for networking and act as community self-help groups (Scaraboto et al., 2016). Sharing new possessions with this community helps 'legitimise' an experience that might otherwise be viewed as strange when others recognize a collection as worthwhile (Belk & Wallendorf, 1994). Second, once-private collections and items are being shared with fellow collectors and broader audiences organized around hashtags, posts and texts constituting a collective curation of private collections (co-curation) (Scaraboto et al., 2016). Third, ICTs have enabled the materialisation of experiences, broadening the range of potential collectable items. Digital objects such as social media profiles, photos and blogs contain a degree of digital materiality (Mardon & Belk, 2018) and therefore can be used to transform abstract experiences into a collection of tangible objects enabling their documentation, preservation, editing and sharing.

3. METHODOLOGY

We adopted the interpretive research tradition in qualitative research in which individuals construct the studied phenomenon (Gephart, 2004). The data collection process included unconstrained in-depth exploratory interviews to allow respondents to speak freely and delve into a complicated and often personal phenomenon. In total, we interviewed 22 frequent travellers. We continued interviewing people until answers to our questions began repeating previous concepts and clear patterns emerged. We reached theoretical saturation (Eisenhardt, 1989) after the 19th interview but completed the remaining scheduled interviews. The interviews were recorded. An average interview lasted 45 minutes (range from 32 minutes to 2 hours). All data were transcribed, resulting in 330 pages of data material. We conducted a three-stage data analysis process. First, we sought commonly emerging themes and associated data with first-order codes by assigning conceptual codes to chunks of text in the transcripts (Strauss, 1987). At this stage, we attempted to retain interviewees' voices and adhere to requests to make "the research language visible" (Järlström, Saru & Vanhala, 2018, p. 708).

4. FINDINGS

To adequately conceptualize the process of collecting travelling experiences, we explored its possible stages and processes. Data analysis revealed four main stages derived from the thematic analysis as first-order themes, each of which consists of several processes (14 in total). The four stages are (a) Planning, (b) Travelling, (c) Curating and (d) Sharing. Figure 1 depicts graphically this process.

Stage 1: Planning

The first step in the process of collecting travelling experiences is Planning. Here, the traveller explores the available options and designs the next trip (Table 3). Uniqueness and rarity are two of the major reasons for an item to be included in a collection (Belk et al., 1988; Lee & Trace, 2009), with unique destinations deemed more admirable in the traveller's quest for the extraordinary (Lang & Crouch, 2005).

Spending a month in Africa was guided by the expectation to live the unexpected. I wanted to be somewhere none of my friends has been before, to have the potential to be surprised and be in awe. If you live in France, how unusual can a visit to London or Rome or Athens really be? (Thibault)

Social reasons also affected the choice of destination, such as travel companions' preferences or a calculation of which place might reflect better on the traveller's identity ("When I shared that photo from a small village in Vietnam [...] you wouldn't believe the reaction I got!" Andie). While presumably every traveller must go through some form of planning and focus on issues of convenience, budget or other practicalities, what set our informants apart is the thought process behind every trip and the set of criteria applied.

Stage 2: Travelling

In our data analysis, four second-order items emerged that are associated with the stage of Travelling or acquiring the planned experience: memory management, immersion, connection with others and development of self, i.e. learning (Table 4). Memory management is useful as a tool to gain validation and legitimacy among acquaintances and fellow travellers. Retelling the stories results in social currency for the collector and enables reliving the tourist experience (Magdol & Bessel, 2003). Proof of the trip is useful for competitive travel websites that record points and also for sceptical friends. One of our younger respondents recalled a friend fake-reporting on his Facebook page that he was in Rome and the negative comments this received. Perhaps this is why this participant always accompanies Facebook posts of trips with photos:

Maybe [take] a selfie with the plane, or some landmark in the background [...] for my followers but also for me, Facebook will remind me in a year and I will instantly travel back to that moment in time. (Danae)

Social media enable memory preservation but also can take over the discussion and transform the experience. When Anthony, an active traveller and Instagram user was asked about a specific photo in his profile, he admitted he remembered less information about the actual experience and more on the discussion that followed:

The memory stays in your mind and in your phone. Once uploaded it takes a different form. Yes Eiffel Tower was amazing but to be honest when I see this photo what comes to mind is more about the 308 likes and comments it generated and less about the experience itself. (Anthony)

Other informants stressed the importance of preserving these memories mainly for themselves. Postcards, refrigerator magnets, maps and clothes were all used to build memories for the future self.

Step 3: Curating

In most of our respondents' narratives, a distinct need to quantify their experiences emerged. We expected such a drive for the few competitive travellers we interviewed whose standing in this community is measured by areas visited, but the finding that the majority of respondents focused on counting numbers, consciously enumerating their trips, measuring their progression towards a goal and striving for completion of the *hunt* was a surprising. More than a few informants stated that they were 'list' people. For example, Esther described her feelings when thinking about her collection of fridge magnets representing all the countries she has been to: "how cool would it be to fill this entire fridge? I have calculated that I need 20–25 more countries to do it ... or a smaller fridge!" Of significant importance are the implications of this competitive attitude for travellers' well-being. Thibault described how obsession to reach 100 countries has minimised the pleasure he receives from travelling, while Elizabeth explained that she only travelled to Greece because she had been gifted a fridge magnet from Athens and "couldn't stand seeing it knowing [she] hadn't been there."

Equally surprising was the need of many of our respondents to turn their immaterial experiences into something visible and solid. *Offline* exotic and rare souvenirs are displayed visibly in collectors' personal spaces, and *online* photos, videos, stories, blog posts and check-ins all become part of the uploader's identity. These intangible objects help solidify their experiences (Mardon & Belk, 2018). Emmanuel's dream is to fill his passport with stamps from different locations before it expires: Passport stamps serve as a tool to solidify the travelling experiences but also as irrefutable proof for competitive travel sites that need to see them before awarding 'points' for highly ranked members. Nomad Mania, a popular competitive tourism website, is mostly based on self-reported trips, but for higher-ranking members, proof is required for a random subset of their trips.

Step 4: Sharing

After the collection is built and organised, it is ready to be shared. Our data analysis identified three distinct practices: Exhibiting, or presenting information about an individual trip or the collection; Bragging, by turning the items of the collection into currency to communicate the collector's achievements; and Gratifying by capitalising on social approval. A deeper motive that came up in discussions only after further probing pertained to respondents' response to peer pressure, mainly from social media. Prior research indicates that online photography can play a decisive role in travel-related behaviour and decisions (Lo & McKercher, 2015), but we captured an active effort to keep up with friends and acquaintances in a digital world where travelling is glorified (Gössling, 2017), with significant implications for travellers' well-being

Travelling gave collectors not only the simple enjoyment of visiting a new country and taking time off but also the opportunity to capitalise on other people's admiration in various ways. As extreme was monetising people's interest, to promote books, journals and websites via social media. A more common approach was gratifying through bonding and bridging social capital (Putnam, 2004), in which the collector gains the recognition of fellow travellers and the admiration of friends and acquaintances. By collecting places, people enjoy the admiration and recognition of neighbours, friends and relatives (Timothy, 1998):

5. DISCUSSION

Our informants' behaviour often did not resemble that of ordinary travellers and more accurately replicated that of other collectors. Similar to what collectors of tangible items do, our respondents created rules about when a country visit 'counts'; item collectors create and follow rules, specialisations and procedures for cultivating their collection (Danet & Katriel, 1994). They embraced the pain and sacrifice of travelling and resembled item collectors who willingly brand themselves as obsessive and admit that their collections have brought personal problems at work or at home

(Sherrell et al. 1991). Many of the people interviewed expressed the need to visit every potential destination: "If a country exists, it must be visited" (Horace). The need to complete a collection is a major characteristic of all collectors (Saridakis & Angelidou, 2018). Organising, storing, caring for, maintaining and exhibiting collections by displaying them to oneself and to others are also important collecting practices (Watkins et al., 2015). Finally, collectors enjoy sharing information about their collection with other people (Long & Schiffman, 1997), and the role of social comparisons in increasing competitiveness is well known (Festinger, 1954; Garcia et al., 2013). We observed this in our respondents' behaviour as well, as their competitive side resembled collectors who are competitive by nature and are always working towards improving their current collection (Belk, 1991).

Extending the limited and mostly normative literature on competitive tourism and travel collectors, our empirical research confirms that choice of destination is indeed influenced by the ability to show off trips to others (Siegel & Wang, 2019), by the destination's uniqueness and peculiarity (Timothy, 1998) or by potential surprise and satisfaction (Belk, 1995). A surprising finding is the impact of this collecting practice on travellers' identity. Theory on competitive travelling suggests that tourists plan their trips with the goal to maximize the number of places they can visit and optimize the resources they can use (Gössling, 2017). This idiosyncratic tendency has a significant impact on travellers' well-being because it can cause negative feelings, such as FOMO, stress and alienation from their friends and families (Krasnova et al., 2013; Przybylski et al., 2013). Although we found evidence of such behaviours and their negative consequences, we also stumbled across many informants who went beyond this 'been everywhere, seen nothing' approach and used their competitive feelings as a motive to get to know more cultures, connect genuinely with local communities and fellow competitive (or not) travellers, get gratification for their adventures and manage their memories more effectively. This indicates that, though some aspects of competitive travelling are rather superficial (e.g. bragging on social media, competing with peers on the number of places one has visited), other aspects are more complicated and have a deeper meaning for travellers. Moreover, it proves that the impact of travellers' competitive attitudes on their well-being can be both negative and positive depending on their personality, self-awareness and overall attitude towards travelling.

The study's findings uncover the previously unknown process of collecting travelling experience and outline its role in influencing travelling motives, behaviours and outcomes. Responding to calls for further research on the consequences of increased mobility, competitiveness and social pressure on people's travelling behaviour (Gössling, 2017), our study offers a framework based on collecting theories and describes how travellers plan, curate and share their trips. By explaining how each step and process of collecting travelling experiences works, we shed light on a travelling behaviour that has received limited research attention. Moreover, we offer insights into the mechanics and main

characteristics of each sub-process within the broader collecting process. Another contribution of the study pertains to its focus on the impact of collecting travelling experiences on travellers' well-being (Caprariello & Reis, 2013) and on destinations' sustainability (Gössling, 2017). As our findings indicate, this process goes beyond just enjoying some travelling experiences and sharing them on social media (Lee & Oh, 2017) by demonstrating how people develop attitudes and behaviours resembling those of traditional collectors. Thus, we show that the significant changes ICTs have brought to the way people travel may also have positive consequences that should not be ignored. Finally, we contribute to the literature on collecting. Pearce (1998) estimates that one in three members of the UK and North American population is or has at some time been a collector, but research in this field remains scarce. We answer calls to further examine the relationship between collecting objects and collecting intangible experiences (Keinan & Kivetz, 2011) and the social/solitary nature of collecting (Spaid, 2018).

Our study has significant implications for academics, as it offers a new theoretical lens through which a new and relatively unexplored travelling behaviour can be explained. We also add to the crucial discourse on the roles of social media and other ICT platforms in shaping travellers' motives, attitudes, behaviours and well-being, by offering a different approach to the existing literature. This approach can also help tourism organizations, local authorities and policy makers better understand their audiences' preferences and potential behaviour. Destinations interested in attracting more visitors should attempt to work with competitor destinations to create 'sets of experiences' instead of an isolated activity. For example, the US National Park Service provides each visitor to one national park a booklet containing a list of all other parks. Visitors can then visit all the parks and receive a different stamp from each (King & Prideaux, 2010). Similarly, cities, islands, monuments, bars or restaurant can gain a differential advantage by working with other similar destinations and appealing to the collecting nature of travellers. Finally, our findings could also be useful for policy makers trying to reduce the negative impact of frequent travelling on the environment and the social sustainability of local communities, as they provide a blueprint for a potentially more sustainable way of travelling, in which people's actions are driven by a pursuit of authentic experiences and connection with local peoples and cultures.

Keywords: Collecting Travelling Experiences, Frequent travellers, Experiential tourism

Reference List Available Upon Request

HOW BLOCKCHAIN CAN IMPROVE THE RESILIENCE OF AGRICULTURAL SUPPLY CHAIN

Kramer, Michael Paul; Hanf, Jon H.

Professorship of International Marketing Management, Hochschule Geisenheim University, Geisenheim, Germany

ABSTRACT

BACKGROUND

The steady increase in food recalls (BVL, 2022) along with past food safety crises has led consumers today to demand information about the origin, production, and journey of food through the supply chain (Saitone and Sexton, 2017). The demanded transparency has triggered a reconfiguration of food supply chains based on trust in food quality and safety (Hanf, 2005; Saitone & Sexton, 2017). Firms in the coffee industry, as part of the agri-food sector, have therefore started to implement blockchain solutions in their supply chains. In doing so, they build trust by sharing product-related information with consumers and making supply chain activities more transparent for both the company and relevant stakeholders (Miatton and Amado, 2020). However, employees can use their power to resist change by engaging in behaviors that do not support the organization's goals. Therefore, it is imperative that management understands stakeholder attitudes and behavioral intentions toward the use of new technologies.

The purpose of our research is to explore the adoption of blockchain technology as an agricultural supply chain resilience factor. Resilience can best be understood as a collective term of interconnected factors that help ensure continuity in the face of disruption (Tendall et al., 2015). In our research, we consider an understudied aspect of supply chain resilience, that resilience disruption can also occur when technology is not adopted by stakeholders. Therefore, we state the general hypothesis that stakeholders' attitudes towards the use of the blockchain technology significantly influences their intention to use and the use behavior towards the technology use behavior, which can lead to improved resilience and competitive advantage.

The paper is divided into two parts. First, we present the theoretical approaches to vertical coordination of agricultural supply chains and technology adoption, as well as the overarching hypothesis. In the subsequent part, we present the development of the blockchain technology adoption model. Thus, the objective of this paper is to identify and analyze factors that influence the behavior of stakeholders in vertically coordinated agri-food supply chain networks in adopting the innovative blockchain technology. Technology adoption is a relevant aspect in terms of ensuring agricultural supply chain resilience.

RESEARCH METHODS

Following an extensive literature overview the research is based on an exploratory use case from the coffee industry, as well as qualitative, semi-structured interviews with managers from the coffee industry.

RESULTS

Our results show that the factor attitude has a positive effect on behavioural intention positively influencing use behavior. Managers can use this model to analyze stakeholder technology adoption behavior and deploy it as a performance indicator to develop an effective stakeholder management strategy that can eventually lead to agricultural supply chain resilience.

CONCLUSION

The adoption and use of blockchain in the coffee and agri-food supply chain has only just begun, and there are only few solutions in the food industry that have moved beyond the pilot or field testing phase. However, due to the strategic network nature of the coffee supply chain network studied, the results can be generalized to some extent to other agri-food supply networks and thus serve as a general guide.

We acknowledge that the chosen research methodology has some drawbacks, including the exploratory nature in which the interviews and subsequent survey are based on small samples, due to the size of the company and the novelty of the technology. The results can only be applied to this specific case in the coffee supply chain. Since blockchain is still in its introductory phase, there are few operational implementations that complement the coffee supply chain. This is the earliest possible time to conduct research that is likely to yield meaningful results.

Keywords: technology adoption, vertical coordination, resilience, blockchain, agricultural supply chain

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WHAT MAKES PEOPLE VULNERABLE TO MODERN SLAVERY IN SUPPLY CHAINS?

Kubacki, Krzysztof¹; Szablewska, Natalia²; Siemieniako, Dariusz³; Brennan, Linda⁴

¹Marketing Department, Auckland University of Technology, AUT, Auckland, New Zealand

²Law School, The Open University, Milton Keynes, United Kingdom

³Marketing Department, Kozminski University, KU, Warsaw, Poland

⁴School of Media and Communication, RMIT University, Melbourne, Australia

ABSTRACT

It is estimated that over 40 million people are trapped in some form of modern slavery (ILO and Walk Free, 2017). However, there is no internationally agreed definition of modern slavery, except that it is understood to cover grievous forms of exploitation of vulnerable individuals and communities, ranging from human trafficking, forced labour, debt bondage/bonded labour, the worst forms of child labour to forced marriage. The notion of vulnerability therefore appears central for understanding where modern slavery is most likely to occur.

Vulnerability has been often used in academic literature in a generalising fashion to describe various demographic groups of consumers in a society (e.g., children, older adults, ethnic minorities; Baker et al., 2005) and the potential impact of their presumed inherent vulnerabilities on their consumer decision-making and wider engagement with markets. Yet there is a growing recognition that vulnerability is a complex social condition that requires nuanced understanding (Kubacki, et al., 2020; Pavia and Mason, 2014). Adding to its complexity as a theoretical concept, in practice vulnerability is also context-dependent (e.g., situational vulnerability; Baker et al., 2005). Accordingly, we all may become vulnerable to various hazards and risks, and therefore attempts to unpack vulnerability need to be located in a specific milieu, bringing together inherent (micro) and situational (meso) vulnerabilities within a social system (macro). This research therefore focuses on vulnerability to modern slavery in supply chains.

Supply chain management has long been a popular focus of research in the management field. According to Ellram et al. (2004) "Supply chain management is the management of information, processes, goods and funds from the earliest supplier to the ultimate customer, including disposal" (p.17). A common pattern of the structure of the supply chain is the arrangement of suppliers from developing countries and business buyers from highly developed countries, which are often powerful MNCs that are orchestrators of the supply chains (Gong et al., 2018). In supply chain management, the business side, as a response to the factors affecting supply chain management, implements various strategies and practices to build resilience against these factors, thereby seeking to mitigate risks and improve financial performance.

Differences in power asymmetries between large buying organizations and suppliers from developing countries allow the former to exert pressure on the latter as a remedy to the need to adapt to dynamic changes in the environment or even to the turbulence of the business environment. An increasing tendency of supply chain management is to non-disclose the supplier lists by buyers (e.g., to financial institutions granting working capital loans), because many suppliers prefer to be invisible (Sodhi and Tang, 2019). However, the research of Cho et al. (2019) shows that the lack of supply chain transparency increases labour violations by suppliers, including child labour. Many suppliers also engage in mock compliance (Huq and Stevenson, 2020).

In this research we aim to explore the notion of vulnerability and its representations at micro, meso and macro levels and we what makes people vulnerable to modern slavery in supply chains. Following systematic review procedures, we identified 51 studies reporting empirical and conceptual business research on modern slavery in supply chains. We found that, at the micro level, vulnerability is predominantly represented as an outcome of one behaviour—migration—simplifying the myriad of external push and pull factors, other behaviours and social relationships. At the meso level, situational risks are clustered around various conditions of employment representing and contributing to experiences of vulnerability. At the macro level, a broad set of systemic issues, from immigration laws to business models, were identified to contribute to the environment in which a heightened risk of vulnerability to modern slavery is experienced.

Keywords: supply chains, modern slavery, vulnerability.

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INVOLVING CITIZENS IN CITY GOVERNANCE: THE EXPERIENCE OF MOSCOW

Kuntsman, Alexander; Kaufmann, Hans Rüdiger

University of Applied Management Studies Mannheim, Oscar- Meixner- Str. 4-6, 68163 Mannheim, Germany

ABSTRACT

The article is devoted to the problems of involving residents in city governance having been inspired by the participation in the Erasmus + project 'DevOps Competences for Smart Cities' (<https://smartdevops.eu/dev/>). The relevance of studying the problems of residents' participation in city governance today is beyond doubt. Modern cities are developing dynamically, and these changes should meet the needs of their residents. The active development of information and communication technologies has led to the emergence of new, electronic forms of public participation. Despite the fact that the problem of citizens' participation in city management using information technology has become the subject of many studies, the study of such issues in relation to Russian reality remains limited at the moment. The annotated article aims to partially fill this gap.

The models of citizens' participation in governance are discussed in general and the role of information technologies in this process is evaluated in particular. Based on empirical data derived from a documentary analysis, the development of the Internet project 'Active Citizen' in Moscow is investigated in-depth (project history, technological features, profile of project participants, problems of its functioning, efficiency, comparison with similar platforms). Based on the results of this analysis, conclusions and recommendations are drawn on the potential application of Moscow's experience to other cities.

The purpose of the work is to identify the potential contribution of information technologies to increase the effectiveness of citizens' participation in urban governance (using the example of the Moscow project 'Active Citizen'). Research questions: 1. How does information technology work as a means of involving citizens in city management in Russian conditions? 2. How does the activity of citizens become an element that presupposes a constructive transformation of technologies? 3. How can Moscow's experience be used by other global megacities?

Arnstein proposed a seminal model of public participation levels (Arnstein, 1969), according to which the very fact of public participation does not guarantee the transfer of decision-making powers to citizens. This model identifies eight levels of public participation, depending on the degree of transfer of powers from the government to citizens. Arnstein's ideas formed the basis of a number of modern models, of which the models of Wilcox (Wilcox, 1994), OECD (OECD, 2005) and IAP2 (IAP2, 2020) should be distinguished. Thus, today there are a sufficient number of theoretical models and

recommendations available for the construction of projects of public participation in state and municipal management. However, there is a lack of research on the use of digital platforms for these purposes in emerging economies, such as Russia. The authors consider it appropriate to contribute to filling this gap.

According to the results of the descriptive quantitative analysis of the 'Active Citizen' platform, it can be concluded that the principle of open access to information via the Internet is actively implemented in the mechanisms of Moscow residents' involvement in the city management. The 'Active Citizen' platform is successfully functioning in the city, which is a resource for attracting citizens to public consultations. The 'Active Citizen' project creates an instrumental framework for participation in urban politics and includes the necessary characteristics of openness. The form of organization of participation in the project is understandable for users, and the project is a tool for building communication. However, the legal status of electronic referendums has not yet been determined. The results of voting in an electronic referendum have no legal force, but are an advisory agent in choosing possible management decisions and a resource to support citizens' initiatives.

In the study, based on a comparative analysis of 10 Russian electronic platforms of public participation, an initial conceptualisation of platform configuration parameters was developed. This conceptualization provides methodological tools for citizens' participation in urban governance. We are talking about the real influence of city residents on the policy of the authorities, which in the theoretical models mentioned above corresponds to the highest level of participation.

The proposed parameters of the conceptualization be used in the analysis of existing projects to identify the level of compliance with the standard, as well as to develop a methodological approach to evaluating the effectiveness of such platforms. Further research based on the proposed model is suggested to be devoted to the development of potential areas for improving Russian and foreign public participation platforms (different rules for submitting information, deadlines, rules of participation, etc.).

Regarding the translation of the Moscow experience to the world level, the following can be noted:

1. The potential of electronic mechanisms for implementing forms of direct democracy, in particular electronic referendums, polls and voting, is still not being used in many countries.
2. It is necessary to actively create open platforms for public dialogue between the population and the authorities.
3. It is necessary to conduct educational activities to explain the forms and methods of public participation in the discussion and resolution of issues of local importance.
4. The authorities of many large cities do not use huge reserves of information technology to attract young people to discuss and resolve issues of local importance.

5. In the conditions of the economic crisis, the use of such forms of direct democracy as polls and referendums in electronic form would be very effective from all points of view.

The theoretical significance of the article consists in revealing the specifics of the process of interaction between citizens and state structures in the process of managing a large city. The main results of the study can be used to deepen theoretical knowledge in such areas as urban management, public administration, information technology, etc.

The practical significance of the work lies in the possibility of using the obtained research results to create an effective management system for a large city, based on developed feedback mechanisms between the city administration and residents.

The scientific novelty of the article is that it presents the results of a systematic original study of the problems of interaction between citizens and city authorities and is based on the rich empirical data of one of the largest and most developed European megacities.

Keywords: city governance, information technology, public participation, electronic platform, 'Active Citizen', Moscow.

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ECONOMIC INTEGRATION OF FSU IMMIGRANTS IN ISRAEL

Kushnirovich, Nonna

Department of Economics and Management, Institute for Immigration and Social Integration, Ruppin Academic Center, Emek Hefer, Israel

ABSTRACT

The purpose of this study was to investigate how immigrants from the Former Soviet Union (FSU) economically integrate over time, and whether they disadvantaged compared to the native population and immigrants from other countries.

Since the breakdown of the former Soviet Union, about one million FSU immigrants came to Israel; they comprised about 80 percent of the total number of immigrants who came since 1990, and 15 percent of the Israeli labor force. About a half of FSU immigrants came from Russia, and a quarter came from Ukraine. Since 2014 immigration from these countries increased (the number of immigrants from Ukraine increased more than five times, and from Russia almost twice). In 2022, the immigration from Ukraine and Russia grew dramatically.

There are three main groups of FSU immigrants in Israel: (1) immigrant citizens (Jews or members of their families obtain Israeli citizenship on arrival); (2) migrant guest workers (Israel signed bilateral agreements on temporary labor migration with Moldova (October 2012) and Ukraine (June 2016). Guest workers from the FSU countries comprised the largest group of labor migrants who enter Israel); and (3) refugees from Ukraine who came in 2022.

METHODS

This study is based on data from the Social Survey administered by the Israeli Central Bureau of Statistics, and data of the Population, Immigration and Borders Authority.

FINDINGS AND CONCLUSION

The main feature of the immigrants from the FSU who came to Israel was their high level of education. They were more likely to become economically active than other groups of newcomers and had relatively high employment levels. The study revealed that immigrants from the FSU countries are disadvantaged regarding their earnings. In spite of their high level of education, FSU immigrants earn less compared to the veteran population, and especially compared to immigrants from Europe and America. Many of them are engaged in ethnic economic activities. Over time the wages of

immigrants increase, but even after 15-20 years after immigration the wage gap between FSU immigrants and the native-born population still exists.

Keywords: FSU immigrants, earnings, economic integration, refugees

WOMEN'S ENTREPRENEURSHIP IN INNOVATION AND TECHNOLOGY: MOTIVATION, CHALLENGES AND IMPACT FACTORS

Lachapelle, Nathalie; Tremblay, Diane-Gabrielle

Business School, TELUQ University, University of Quebec, Montreal, Canada.

ABSTRACT

Our research aims to highlight the positive or negative variables that influence women to choose the entrepreneurial profession and start their own business. Also, to determine which factors in the knowledge ecosystem motivate female entrepreneurs, and explain female Leadership as well as the challenges they face in starting and sustaining a company in Innovation and Technology (IT) sectors.

The entrepreneurial innovation process and ecosystem will be addressed by combining the different approaches of the entrepreneurship field to identify the characteristics and skills of the innovative entrepreneur and compare gendered characteristics. Alexandre (2016) shows that there is a difference between the characteristics of men and women entrepreneurs. Gabarret and Vedel (2015) raised four distinct dimensions of entrepreneurial creation situations: the economic opportunity (possibility of increasing one's income), the need (for lack of employment), the dissatisfaction with the previous job or actual job, and the desires for autonomy and independence. The Global Entrepreneurship Monitor (GEM), proposes that the motivation comes from two variables, the "push" and the "pull". The push approach corresponds to the concept of necessity entrepreneurship (Acs & Varga, 2005). In contrast, the pull approach is the opportunity entrepreneur (Acs & Varge, 2005).

The objectives of the research are to understand the motivations of the female entrepreneurs, their challenges and the factors they face in the environment, which facilitate or limit the realization of their entrepreneurship objective in IT sectors, as well as to encourage them to start a firm in IT. The research also identifies societal obstacles limiting women's entrepreneurship objectives in IT sectors and to propose actions to encourage female entrepreneurship in IT.

Wilson *et al.* (2009) focused on self-efficacy, which relates to the positive influence of entrepreneurial education and self-confidence (success), which is more important for women than for men.

Women's entrepreneurship attracts attention because of some important impacts, including its effects on women's earnings, quality of life and working conditions, economic growth, and social impact (Hugues, 2017, GEM Women's Report 2015/2016). According to recent data, women face challenges which are different from those of men through "the increased influence of their caregiving roles or preconceived by their employers as to these roles" (Statistics Canada).

The research is based on a qualitative methodology, which makes it possible to identify the determinant variables of knowledge ecosystems in the digital context, which have an influence on female entrepreneurship in ST. The research highlights the differences between men and women..

Keywords: Women entrepreneurship, Innovation and technology

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HACKATHONS AS A SUSTAINABLE MARITIME CONCEPT AND PRACTICE: THE CASE OF NAVS BLUE HACKATHON

Lekakou, Maria; Gavalas, Dimitris; Remoundos, Georgios; Katsounis, Ioannis; Gota, Markella

Department of Shipping, Trade and Transport, University of the Aegean, Chios, Greece

ABSTRACT

Hackathons are time-bounded events during which participants gather in teams and attempt a project of interest to them (Pe-Than et al, 2019); in this way they are example of a bottom-up form of innovation. They are considered to offer participants the important 'by-product' of personal buildout and feeling of accomplishment working with contemporary technologies, while meeting and cooperating with new people. Thus, the hackathon's prospective for comprising strong communities and cultures could be a supreme reason for organizing such an event (Komssi et al., 2015). Additionally, the diversity of the participants is considered beneficial for concluding in an affluent mix of ideas, while at the same time they are recognized as a useful learning resource (Rosell et al., 2014).

However, hackathons have been criticized and the ideas generated as a result of them are rarely useful or implemented in addressing the challenges that prompted them. Participants have sometimes expressed frustration as a result of unrealistic expectations regarding the outcomes. Similarly, the lack of marketable findings led to conclude that something is still missing from the hackathon technique (Granados and Pareja-Eastaway 2019).

Nonetheless, the critique has been traced back to a misunderstanding of the hackathon process as a whole and the outcomes of various sub processes, such as the post-hackathon phase's importance. Furthermore, criticism implies either a lack of understanding of the necessity of hackathon design aspects throughout the process or an inability to establish the goals of a short time-bounded event and design the event challenges accordingly (Lodato and DiSalvo, 2016).

As far as the authors' study is concerned, in June 2020, the NAVS project launched, co-financed by the European Regional Development Fund of the European Union and Greek national funds through the Operational Program Competitiveness, Entrepreneurship and Innovation. The NAVS project aimed to showcase and enhance a particular sector of maritime heritage through the use of new cutting-edge technologies, and that is shipping, shipbuilding and seamanship. These comprise the pillars of Greek history that is closely intertwined with the sea. Over time, many and varied ships and boats were designed and built for different purposes and uses. These vessels constitute a large part of the maritime tradition of Greece.

For the implementation of the proposed actions, the experience, expertise and know-how of the involved partners was utilized in the areas of historical and economic documentation, development

and reconstruction of digital geometric ship models, development of virtual environments and multimedia applications. The partners involved were the Eugenides Foundation (Program Coordinator), the National Technical University of Athens, the University of West Attica and the Institute of Mediterranean Studies of the Institute of Technology and Research, and the University of the Aegean.

In particular, the University of the Aegean under the coordination of the project team (the authors) and in collaboration with the rest of the partners organized the NAVS Blue Hackathon, which lasted from 20/12/2021 to 18/03/2022. The action took place in the framework of the NAVS program: "Promotion and logistical documentation of the Greek shipbuilding tradition and naval history - The naval battles of Navarino and Salamis". The competition consisted of five parts. Initially, the interested parties were informed about the objectives of the NAVS project and the main topics that concerned the related sectors. Then the interested parties participated in a workshop for building teams and team spirit. They then collaborated on the basis of information, knowledge, stimuli and related data, in order to specify a structured business idea. In the penultimate phase, each team presented separately the initial results of their work and received comments based on the prerequisites of the competition, while attending a seminar on presentation methods. The process was completed in the last phase with the presentation of business ideas, which were evaluated and graded by a panel of judges. At the end of the competition, the awards were presented and the teams were supported by the project team to transform the business idea into a business plan.

In more detail, the NAVS project team organized three consecutive coaching sessions with the aim of organizing the teams and guiding them to complete their business ideas. The three sessions took place on 27/01/2022, 10/02/2022 and on 11/03/2022. On 11/03/2022 the General Rehearsal followed where the participants presented their ideas receiving comments from the coaches. The participants then had 1 week to optimize their business ideas, which they submitted for review by the judges on 17/03/2022. The process was completed on 18/03/2022 when the Grand Final took place and the three winning teams were announced.

The program and terms of the NAVS Blue Hackathon competition were designed to take into account the COVID-19 pandemic restriction measures. Thus, the competition took place in hybrid form (live or remotely by electronic platform) and completed within a wide schedule (over two months). The awards announced were: First Prize: 1000 Euros, Second Prize: 600 Euros, and Third Prize: 400 Euros. At the same time, the three teams with the most comprehensive conceptual plans would be offered incubation support by the NAVS project team. A total of fifty-six people participated in the competition, of which seventeen people submitted their final conceptual plan. Participants had the opportunity to attend the Master Classes as well as the workshops that took place.

During the coaching sessions the project team aimed to facilitate the creation of teams among the participants. Authors observed that using icebreaking techniques, such as coordination games, expedited the process, resulting in the creation of eight working groups. The participants then became acquainted with the methodology developed by the University of the Aegean regarding the participation in Blue Hackathon business competitions. Thus, with the instructions of the relevant model, the participants were given a timeframe of one month to complete a draft of the business conceptual plan and were later invited to optimize it with the assistance of the coaching team as well as the material posted on the NAVS Blue Hackathon 2022 website, until the final submission on 17/03/2022.

At the end of the business conceptual plan presentation, the jury had the opportunity to discuss with the participants and gave critical comments and suggestions to improve the final plans. The final judgment and performance score is based on the methodology developed by the University of the Aegean and for each proposal the following criteria were considered: Originality/Innovation (this criterion examined the presumptions of originality and innovation of the conceptual plan as well as the degree of its differentiation in the industry), Team Composition (this criterion examined the collaborative approach and collaboration utilizing the dynamics of the team based on the background of its members), Presentation Perfection (this criterion examined the setting-up and content of the presentation, as well as the presentation techniques and completing in-time), Plan Adequacy (this criterion evaluated the description of the plan, the technical/functional characteristics of the idea and the relevance to any existing business activity), and Proposal Sustainability (this criterion assessed the financial viability of the plan based on the projected financial data).

Overall, the organizing team showcased a new methodology technique for NAVS Blue Hackathon project by introducing a four-step preparatory procedure for developing a concrete business plan proposal under the guidance of the coaching team. The technique used produced valuable results and the time schedule proved to facilitate the business plan development as well as the market research. The final stage was the evaluation of the business plan by a multidisciplinary and cross-sectional jury panel aiming to express the industry perspective and unveil the level of acceptance.

Keywords: Maritime Education, Entrepreneurship, Hackathons, Team-Building, Soft-Skills, Competition, Sustainable Blue Economy, Traditional Shipbuilding, Seamanship

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MEDIA EXPOSURE TO A DISTANT OUTGROUP AND LOCAL INTERGROUP RELATIONS

Lissitsa, Sabina¹; Kushnirovich, Nonna²;

¹School of Communication, Ariel University, Ariel, Israel

² Department of Economics and Management, Ruppin Academic Center, Emeq Hefer, Israel

ABSTRACT

In the era of globalization and digital technologies, the spatial dimension has gained particular prominence in the media, as audiences now have far greater remote access to facts, events, and happenings "out there in the world," beyond their immediate and local experience. Journalists overcome the negative force of physical distance through a *domestication process*, i.e., the framing of a foreign news event within the perceived national or local context of the audience. Domestication of foreign information and images depicting threatening situations can augment support for hawkish foreign policy, while reassuring foreign information can boost dovish liberal stances. The main purpose of the current study is to investigate the associations between exposure to content about foreign minority outgroups in the local media, the domestication of threats from foreign outgroups to the local ground and attitudes toward local minorities.

The foreign outgroup in our study is the population of asylum seekers and refugees who arrived in the European Union (EU) from African, Middle Eastern, and Asian countries following the Arab Spring. Due to distance and lack of direct contact, media coverage of European asylum seekers (EUAS) in Israeli Hebrew media is a particularly interesting lens through which this unique form of representation influences internal Israeli discussion about ethnic and national minorities: Israeli Palestinians (hereinafter IP), non-Israeli Palestinians (hereinafter NIP), and asylum seekers in Israel (hereinafter IAS).

The study was based on an online survey of 1039 Israeli Jews. *Exposure to EUAS negative/positive media content* was measured by addressing the frequency of exposure to negative/positive EUAS portrayals in TV news, TV documentary programs, newspapers internet news or social media. The measures of *Attitudes toward IAS, IP, NIP* were based on the General Evaluation Scale. *Domestication of distant threat* was measured based on three items, for example: "Crime by asylum seekers in Europe can provoke higher crime rates in Israel, which will reduce the sense of personal security in Israel".

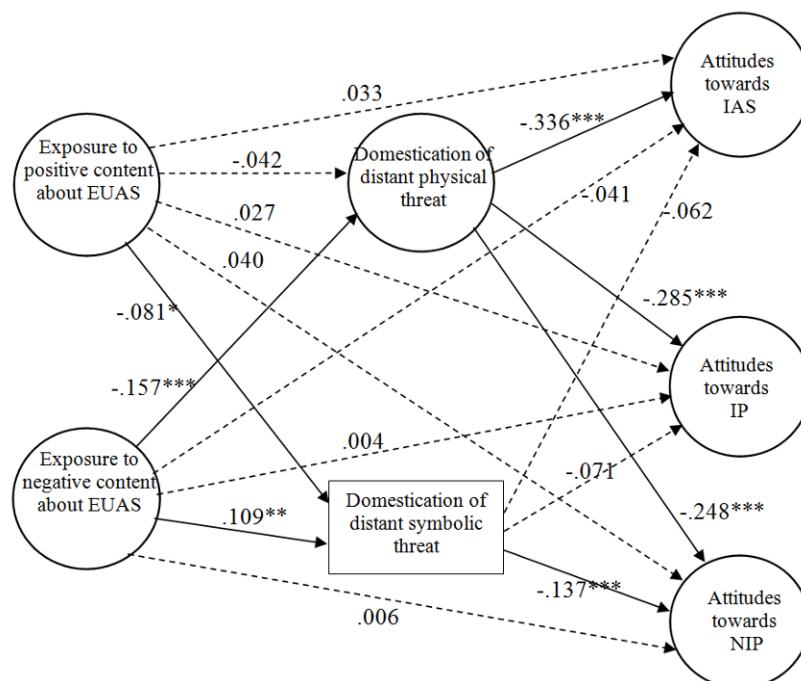
We found positive associations between frequency of exposure to *negative* media content about EUAS and domestication of distant threat (see Figure 1). Thus, continuous exposure to media content about distant groups, with whom respondents were not in direct social contact, was

domesticated and carried over to local threats from local outgroups. The higher the level of domestication of distant threat, the more were the negative attitudes reported toward domestic minorities. The more frequently Israeli Jews consumed negative stories about EUAS, the more negative were their attitudes toward the local minority – IAS. However, other full effects (regarding IP and NIP) were not significant. Namely, frequent exposure to negative media content about EUAS was associated with worse attitudes only toward the group that is similar to EUAS in status - IAS, but was not carried over to other domestic minorities, which may be perceived as similar to EUAS in terms of culture and religion.

Considering our findings, Israeli foreign media gatekeepers – politicians and journalists – should take into consideration that the manner in which this particular group is described, categorized, and represented matters *to the Israeli context*. Media framing of remote groups and events can have important, long-lasting local consequences, most obviously including social and political implications.

Keywords: asylum seekers in European Union, distant threat, foreign news, news domestication, domesticated threat, physical threat, symbolic threat, media exposure.

Figure 1. Results of the SEM for effects of exposure to media content about EUAS on attitudes toward IAS, IP, and NIP



EXPLAINING CONSUMERS' PREFERENCES FOR BIO-BASED PACKAGING

Lombardi, Alessia; Califano, Giovanbattista; Caracciolo, Francesco; Cembalo, Luigi; Del Giudice, Teresa

Department of Agricultural Sciences, University Federico II, Naples, Italy

ABSTRACT

Consumers' awareness towards the depletion of natural resources and environment is increasingly growing (Pino et al., 2012). Consumers feel responsible toward environmental protection and try to make a contribution to sustainable development (Moser, 2015). Sustainable purchasing are concrete chances to reduce the negative environmental impact by choosing "eco-friendly" (or "green") products (Ramayah et al., 2010; Leonidou et al., 2013; Kim et al., 2013). Since packaging is an important factor in consumers' process of purchasing decision, eco-friendly packaging is emerging as an important example of green resolution that call for scientific research, mainly focusing on packaging improvements of renewable materials useful to substitute conventional plastics (Feber et al., 2020). Plastic production, and its relative waste, is deemed by the society as a major environmental issue and, consequently, behavioural solutions are needed to tackle plastic pollution. Alternative sustainable packages are plant-based ones (e.g., made of polysaccharides) that currently represent the most efficient option for the production of bio plastics. However, as all innovations in the food sector, also those related to packaging are successful only if accepted and chosen by consumers.

The objective of this research is to analyse consumers' choice, and willingness to buy, biodegradable and compostable packaging of ready-to-eat vegetables (*green behaviour*) exploring an extension of the theory of planned behaviour (TPB) using a representative sample of Italian population. To illustrate, a choice experiment was conducted where attributes tested are: type of packaging (biodegradable and compostable, recycled plastic, conventional plastic); price; transparency of packages (opaque or transparent); and organic certification (organic or conventional). Results of the choice experiment are used as proxy of consumers' behaviour in our TPB model.

TPB has been extensively used in the literature in studies on consumers' sustainable choices. This theory assumes that the intention to perform behaviour is influenced by attitudes, subjective norms, and perceived behavioural control. In our case, intentions to buy biodegradable and compostable packaging influence the behaviour of purchasing biodegradable and compostable packaging (which comes from the choice experiment results). In addition, demographic variables, environmental concern, knowledge of packaging characteristics and their correct disposal method, past behaviour, personal norm, cognitive benefit, and emotions (positive and negative) are added as the extended variables of the conventional TPB model.

In the present study, the following hypotheses were developed in line with TPB theory:

Hypothesis 1) Positive intentions to buy biodegradable and compostable packaging positively affect the choice (purchasing) of biodegradable and compostable packaging (behaviour);

Hypothesis 2) Attitude towards biodegradable and compostable packaging positively affects behavioural intention to buy biodegradable and compostable packaging;

Hypothesis 3) Subjective norms related to biodegradable and compostable packaging positively affects behavioural intention to buy biodegradable and compostable packaging;

Hypothesis 4) Perceived behavioural control related to biodegradable and compostable packaging positively affects behavioural intention to buy biodegradable and compostable packaging;

About the relations of extended variables of the TPB model, the following hypotheses were tested:

Hypothesis 5) High environmental concern positively influences attitudes towards biodegradable and compostable packaging, perceived behavioural control, subjective norms and personal norms, which in turn positively affect intention to buy biodegradable and compostable packaging;

Hypothesis 6) Environmental concern affect cognitive benefits of ecological packaging which in turn influence emotion (positive or negative) towards biodegradable and compostable packaging;

Hypothesis 7) Positive and negative emotions towards biodegradable and compostable packaging influence consumers' intention to buy biodegradable and compostable packaging;

Hypothesis 8) Past behaviour related to biodegradable and compostable packaging affects intention to buy biodegradable and compostable packaging;

Hypothesis 9) The higher is the knowledge of biodegradable and compostable packaging and their disposal method, the higher is the intention to buy biodegradable and compostable packaging.

Figure 1 shows all the interactions tested in the extended TPB model.

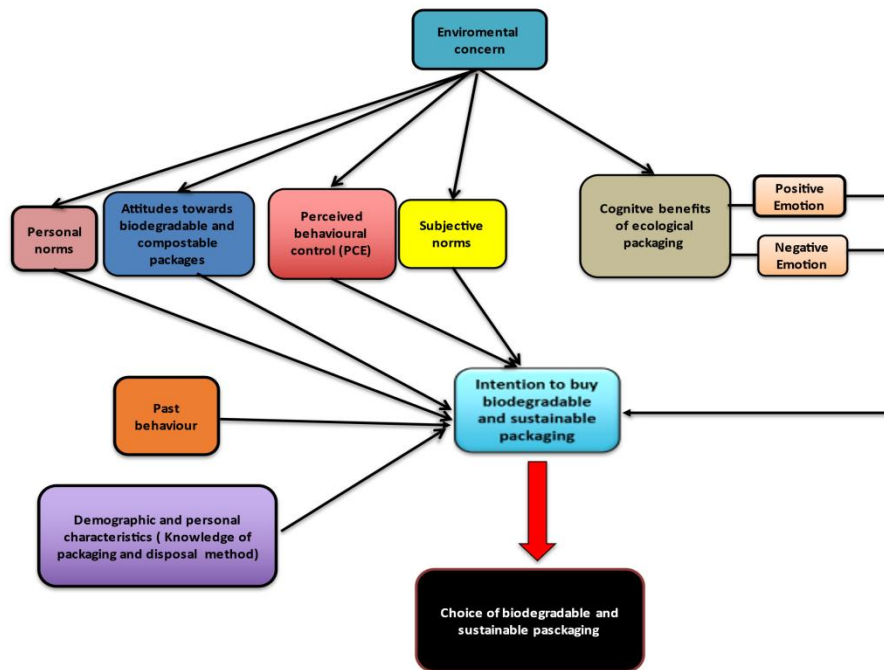


Figure 1: Extended TPB model.

The innovativeness of the present research is three-fold, namely:

- 1) The use of choice experiment results as a proxy of consumers' behaviour in an extended TPB model.
- 2) The analysis of the effect of consumers' (choice and) degree of familiarity with biodegradable and compostable packaging, as well as their disposal method.
- 3) The role of affective (emotional) processes in informing consumers' decisions to purchase products incorporating ecologically responsible packaging; the role of positive and negative emotions in influence consumers' intention to buy is tested, increasing the explanatory power of a decision-making model such as TPB.

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SOCIAL MEDIA ATMOSPHERE ENHANCING LIVE STREAMING MARKETING PERFORMANCE: A MIXED METHOD STUDY

Lyu, Jing (Daisy)¹; Krasonikolakis, Ioannis²

¹Digital and Data-driven Marketing Department, Southampton Business School, University of Southampton, Southampton, United Kingdom.

²St Antony's College, University of Oxford, Oxford, United Kingdom

ABSTRACT

1. RESEARCH CONTEXT AND GAP

The emerging broadcasting approaches have boomed consumer engagement and boost online transactions when a great number of users choose live streaming platforms to communicate, interact and conduct purchases (Wang & Wu, 2019; Plangger et al., 2021). The novelty of live streaming marketing lies in its real-time consumer interactions and synchronous features of virtual shopping chatrooms. Consumers can obtain information on the spot about products by asking streamers product-related questions due to AI and other related reality advances (Park & Lin, 2020). Hence, extant live streaming platforms such as Facebook Live, Twitch, TikTok, Instagram Live attract millions of audiences and disseminate tremendous amount of information simultaneously, promoting brands and products (Hu & Chaudhry, 2020). For example, Twitch is famous for its gaming-centric experience (Gandhi et al., 2021) and TikTok supports worldwide video content users (Meng and Leung, 2021). Both streaming platforms target young purchasing powers and stimulate impulse transactions in the digital settings especially during global pandemic.

Recent live streaming research has focused on consumer-influencer interactions, digital communities and diversities, and virtual gifting behaviors etc. Furthermore, multiple scales of broadcasters ranging from mega-streamers (very influential opinion leaders) to nano-streamers (with less followers but targeting niche markets), are focusing on consumer behavioural dynamics such as impulse and indulgent purchase decisions. A plethora of studies commonly highlight the significant benefits and advantages for marketers to employ live streaming tactics. However, the investigation of social media atmosphere contextualised in live streaming marketing remains scarce, besides, few research discloses the underlying atmospheric cues of emerging live streaming platforms. We believe that scholars of human-computer interaction area should focus on understandings the social media atmospherics in such trending digital commerce platforms.

Although recent scholars address that interesting atmosphere on streamers' Twitch channels (Gandhi et al., 2021) and pleasant social atmosphere delivered by tourism live streamers (Lv et al., 2022) are well

perceived by consumers, a research gap exists on how social media atmospherics contribute to live streaming marketing performance. Therefore, this research aims to discover the distinct attributes of social media atmospherics in live streaming marketing contexts and identify the most influential factors driving positive streaming performance and encouraging impulse purchases. The research questions are formulated as follows: (1) what are the underlying social media atmospheric cues on live streaming platforms? (2) whether and how the social media atmospheric attributes are influencing live streaming marketing performance?

2. THEORETICAL BACKGROUND

This research is based on the Stimulus-Organism-Response (SOR) framework as grounded theory to investigate social media atmosphere in live streaming marketing context. Having reviewed well-adopted theories in terms of live streaming research such as parasocial interaction (Chen, 2021), opinion leadership (Guo et al, 2021) and IT affordance perspective (Sun et al., 2019), we consider appropriate to employ the SOR model to demonstrate social atmospherics differently (Ming et al., 2021) attributed to the following reasons. First, in theory, the SOR model is applied in examining human behaviors in response to environmental stimulus (Sha et al., 2020), moreover, human's cognitive and affective state is affected before reflecting any behavioral changes towards the stimuli (Mehrabian & Russell, 1974). The present research considers the social media atmosphere as the stimulus, that influences audiences' evaluations (organism) and in turn, directs their approach/avoidance behaviors (response) toward participating in live streaming activities and impulsive purchasing behavior. The second motivation of employing the SOR model is that more than 50 research on store atmospherics have largely examined SOR's applications under various commerce channels (i.e., Koo et al., 2014; Ong et al., 2018; Bhatt et al., 2020), which suggests that is a suitable vehicle to explore social media atmosphere in live streaming marketing.

3. PROPOSED METHODOLOGY

This research follows a mixed method approach by embracing the Delphi study first, and an experimental study design then to answer the research questions (Krasnikolakis et al., 2018). First, a three-round Delphi study will be adopted to discover and classify emerging components of atmospheric cues in live streaming platforms. Moreover, this research examines the most widely adopted live streaming tools such as Twitch, TikTok, Facebook and Instagram Live rather than restricting commercial-, gaming- or social-driven streaming platforms only which allows us to generate richer insights. Second, a series of experiments will be conducted targeting live streaming audiences to measure cause-effect outcomes and provide valid answers to the second research question. Such

complementary methods will deliver comprehensive and valuable contributions in literature and straightforward managerial implications.

4. ANTICIPATED CONTRIBUTIONS AND IMPLICATIONS

To summarise, this empirical research is the first, to the best of our knowledge to identify the different attributes of social media atmosphere in live streaming marketing contexts. Theoretically, it strengthens and extends the SOR framework to a different context known as live streaming commerce. Moreover, this theoretical vehicle allows us to disclose specific stimulus of social media atmospherics beyond conventional store atmospheric cues such as light, background, layout, ambience and designs. Not only knowing the contextual stimulus, but we also intend to identify target audiences' behavioral responses in the digital era. Meanwhile, these denotations will provide straightforward implications for live streaming marketers such as applying the most effective social media atmospheric element from technological aspects rather than repeating pleasant atmosphere in a virtual chatroom. In addition, we aim to offer valuable insights for practitioners to facilitate impulsive purchases and product returns in live streaming marketing contexts. Last but not least, this research explores and compares multiple types of live streaming platforms that distinct platform performance will be discussed for marketers to make strategic decisions.

Keywords: social media atmosphere, live streaming marketing, social media platforms, mixed method design

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CORPORATE SOCIAL RESPONSIBILITY AND THE EFFECTS ON CONSUMER ENGAGEMENT IN BANKS' SOCIAL MEDIA COMMUNICATION STRATEGY

Macca, Luca Simone¹; Santoro, Gabriele¹; Ballerini, Jacopo^{1,2}; Palmucci, Dario Natale¹

¹Department of Management, University of Turin, Turin, Italy

²Department of Marketing, Vrije Universiteit, Amsterdam, Netherlands

ABSTRACT

INTRODUCTION AND AIM OF RESEARCH

Banks play a predominant role in the economy and are subject to growing expectations from stakeholders, such as governments, media, and communities (Belasri et al., 2020; Shen et al., 2016; Wu and Shen, 2013). Moreover, the banks' complicity in the latest financial crises and their subsequent undermined their public reputation (Ruiz and García, 2019). Furthermore, because banks benefit substantially from society (e.g., through government guarantees), public opinion often stresses them for acting more transparently and maintaining socially responsible behaviour (Shen et al., 2016; Yeung, 2011). With this in mind, the enhanced trust gained through Corporate Social Responsibility (CSR) initiatives, becomes a critical factor in the banking industry to engage customers, and rebuild image and reputation (Jaiyeoba et al., 2018; Moliner et al., 2019; Shen et al., 2016).

Regarding reputation, trust and consumer engagement, one mean of communication that has become increasingly popular among banks in the last decade is social media (Accenture, 2014; Suvarna, V.K. and Banerjee, B., 2014). Indeed, Social media are being used by banks as a marketing tool, as a communication channel, as a channel for feedback and reactions, and as a model for social transactional banking (Durkin et al., 2015; Parusheva, 2019). Banking institutions often include in their communication editorial plan their CSR activities and obviously social media channels are no exception. Schroder (2021a) study confirms that German banks, for example, dedicated 21.6% of their Facebook content to CSR posts between 2015 and 2019.

Our study aims to understand the degree of effectiveness in engagement that can result from communicating CSR activities on social media respect to other topics into the banking industry. In this respect, the following research questions (RQ) are formulated:

RQ1: Is CSR content more engaging than non-CSR content in banks' social media communication?

RQ2: What CSR activity, specifically, is most engaging in banks' social media communication?

Overall, we want to contribute to the theoretical development of social media banking communication by providing an empirical analysis that compares the different dimensions of CSR with interactions on social media. Finally, we also want to offer useful insights to managers to understand which content

creates the most engagement in the eyes of consumers, so as to take the right implicational measures and avoid communicating uninvolved content on social media.

LITERATURE BACKGROUND AND GAP

Importance of CSR in the banking industry

The banking industry is a source of capital for firms and thus plays a locomotive role in economic development (Kiliç et al., 2015). Banks are required to provide feedback to the community more often than other industries, using a considerable amount of resources from society (Wu and Shen, 2013). Shen et al. (2016) also assert that CSR in the banking sector influences the growth of industrial sectors to some extent. According to some CSR experts and practitioners, adopting CSR in the banking industry is particularly important because of different reasons. One reason goes back to the time of the financial crisis, when banks received public funds from the government to reduce their difficulties (Wu and Shen, 2013). As well, the banking sector enjoys or has enjoyed other explicit benefits from external sources, such as implicit exemption from VAT, which gave rise to legislative initiatives such as the tax on financial transactions or activities, leading to substantial cost reductions in banks compared with non-banking sectors (Shen et al., 2016). Another reason is that banks in most countries are involved in economic activities aimed at sustainable development, such as offering savings accounts to the public to finance community investments in the environment. Reputation enhancement also motivates banks to conduct CSR activities. By selling financial products to people who are not be equipped with financial knowledge (Jaiyeoba et al., 2018), banks can benefit from CSR and gain greater brand recognition by leveraging the increased trust gained through CSR to attract customers (Shen et al., 2016). Deigh et al. (2016) also clearly show, through their study's dataset, that banks seek to behave responsibly towards community by generating positive impact. Specifically, whatever CSR activities are achieved in order to engage the community, their study finds that the benefits to banks include good corporate reputation, trust building, and increased customer loyalty. Finally, the banking industry is becoming technologically intensive through its increasing use of online and mobile applications (Kiliç et al., 2015). Kiliç's (2016) study suggests that high-visibility banks, being exposed to more pressures, place more importance on online CSR disclosure. Therefore, broad online CSR communication through different channels can build the legitimacy, image, and reputation of the banking sector (Schröder, 2021b).

Social media communication in the banking industry

Among the various communication channels for banks, social media is an effective marketing tool and a means for quick and personalized communication with consumers (Parusheva, 2017). By closely following the needs and desires of their customers, banks are confidently embracing the idea of

implementing social media banking models and using social media as a marketing tool, as a communication channel, as a channel for feedback and reactions, and as a transactional banking model (Parusheva, 2019). To remain competitive and differentiate themselves, banks should build their brands and develop their social media presence, enabling interaction with customers and providing them with social benefits (Torres et al., 2018). Through social media, banks have the ability to receive feedback from customers on new products and services but also for existing ones, allowing them to optimize their products and services and ultimately the customer experience (Parusheva, 2017). Social media marketing offers an opportunity to enhance banks' relationships with their customers, enabling the continuation of banks' brand story and presenting an ideal opportunity for word-of-mouth marketing (Durkin et al., 2015).

CSR and social media engagement in the banking industry

Banks are not new in communicating CSR through social media, and recent research evidences this phenomenon. First and foremost, Hoff-Clausen e Ihlen (2015) define a paradigm shift, stating that the very moment banks communicate about CSR on social channels, they are in fact performing a socially responsible action by sharing good practices. Steenkamp and Rensburg (2019) infer that the bank's CSR communication through social media increases the stakeholders' participations to banks' CSR open initiatives. Correspondingly, Fatma et al., (2020) survey shows that Indian social media users tend to recommend to their network Banking Institutions they consider to be socially responsible. Finally, Wang e McCarthy (2021) in their research comparing two Oceanian banks Facebook communication included CSR content, among others, into content category named "persuasive".

However, to the best of our knowledge, there is still not enough evidence on what could be the topic that can create the most social media engagement in the banking industry. Moreover, despite CSR posts could be in our opinion a great content candidate, to date little knowledge exist about potential differences in engagement arising from different CSR kinds of activities banks communicate about.

METHODOLOGY

We aim to conduct a Multiple Linear Regression Analysis using a classification of CSR activities (or CSR dimensions) from Bhattacharya and Sen (2004) to assess the effectiveness of their CSR endeavours. The CSR dimensions involved are: environment, diversity, community support, employee support and product. The banks we have decided to analyse are the top 15 European banks by asset (Ali, 2020). The interactions that create engagement on social media instead are likes, comments and shares (de Vries et al., 2012; Dolan et al., 2019). Overall, this methodology will be used to study the relationship between each of the five dimensions and the respective social media interactions of banks that create consumer engagement (understood as the number of likes, shares,

and comments). The data will be analysed with the use of SPSS 28 software. Our data collection is conducted through three social media platforms, namely Facebook, Instagram, and Twitter. The selected time period refers to January 1, 2021 through December 31, 2021, which includes about 50,000 social media posts. Contextually, we consider that for each CSR dimension, relevant keywords have been selected with specific reference to the theme of the dimension, identifying about 15,000 CSR-related posts. Therefore, our data collection is done by searching for the selected keywords for each CSR dimension, performed within the banks' social media posts.

EXPECTED RESULTS, IMPLICATIONS AND CONTRIBUTIONS

From the results of our analysis, we expect the following. First, we expect to empirically verify that CSR communication is statistically more effective in enhancing consumer engagement across the three different social media platforms analysed, namely Facebook, Twitter, and Instagram. Second, we expect to highlight differences in the impact that the different selected CSR dimensions have on engagement in the analysed social media platforms. Our study will contribute to two different streams of research. First, it will bring new empirical evidence to the marketing literature investigating the antecedents of consumer social media engagement. Second it will contribute to enrich the actual knowledge about banking communication on CSR. As for managerial implications, our results may be useful for social media managers as they will be able to indicate what type of social media activity is most engaging across the different social media used. They will also possess knowledge on which dimensions of CSR are the most engaging for each social media outlet.

Keywords: Corporate Social Responsibility, CSR communication, Banking industry, Social media, Consumer engagement, Stakeholder engagement, Bank marketing.

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BIO-BASED PACKAGING IN THE ORGANIC FOOD SECTOR: A Q METHODOLOGY STUDY

Mandolesi, Serena¹; Naspetti, Simona²; Kilic, Busra¹; Solfanelli, Francesco¹; Cubero, Dudinskaya Emilia¹; Zanolì, Raffaele¹

¹Dipartimento di Scienze Agrarie, Alimentari e Ambientali (D3A), Università Politecnica delle Marche, UNIVPM, Italy

²Dipartimento di Scienze e Ingegneria della Materia, dell'Ambiente ed Urbanistica, Università Politecnica delle Marche, UNIVPM, Ancona, Italy

ABSTRACT

In the future, the demand for food and, consequently, the food packaging's impact on the environment is expected to grow (FAO, 2018). Developing packaging alternatives to non-renewable petrochemical-based materials is fundamental to overcoming key sustainability issues in the next future and for shifting our economy from oil-based to bio-based plastics (Guillard et al., 2018; Ncube et al., 2021). In contrast with the circular economy principles (World Economic Forum and the Ellen MacArthur Foundation, 2016), only 5% of the plastic materials are effectively recycled. In this context, some alternative solutions to conventional plastics are receiving great attention as they are supposed to help in reducing ecological footprint and plastic packaging waste streams in oceans (Briassoulis and Giannoulis, 2018). Several studies showed that the overall functionality of bio-based food packaging, including films obtained using biodegradable polylactide (PLA) and the compostable NatureFlex, is satisfactory (Briassoulis and Giannoulis, 2018; Rapisarda et al., 2020). This study aimed to investigate the wide range of opinions regarding the acceptance of bio-based packaging in the Italian organic food supply chain. Individual perspectives from a selected group of relevant stakeholders (producers, distributors, and researchers) were captured by applying Q methodology (Brown, 1980; McKeown and Thomas, 2013). Q methodology is a scientific approach suited to studying individuals' subjective viewpoints on various research topics, including environmental policy, food innovation and organic agriculture, in a structured and statistically interpretable form (Barry and Proops, 1999; Zanolì et al., 2018). According to this methodology, different perspectives were collected using individual experiments known as "Q sort" (Brown, 1980). Participants are asked to sort a set of items according to their subjective standpoint. Then, this variety is reduced to a few "factors" or "discourses" which are the expression of shared viewpoints (Brown, 1980). In this way, those with similar opinions are grouped into the same factor. This data reduction is compelled by a by-person factor analysis (Stephenson, 1935). A Q study consists of five steps: construction of the "concourse", definition of the "Q sample", selection of the "P sample", collection of "Q sort", and factor analysis and interpretation. In Q methodology, the "concourse" includes the overall population of opinions, usually statements,

surrounding the topic under investigation, and it can be generated in different ways (Brown, 1980). For this study, over 180 ready-made statements regarding the adoption of sustainable bio-based food packaging were collected from newspaper articles and social networks. Then, the overall “concourse” was reduced to a more manageable number according to a structured sampling approach. (McKeown and Thomas, 2013). The selection was completed using the Fisher’s experimental design approach (Fisher, 1960). The sample matrix included 2 dimensions (“Perceived usefulness”, “Perceived ease of use”) derived from the Technology Acceptance Model (TAM) (Davis, 1989), and 3 selected levels of sustainability (“Economic”, “Social” and “Environment”) (FAO, 2016). Six statements were selected for each cell of the sample matrix and obtain a balanced Q sample ($2 \times 3 \times 6 = 36$ Statements). The participant sample – P set – was structured to include a sample of respondents who were relevant to the problem under examination, such as people working in the organic food supply chain (producers and distributors) and researchers. Also, unlike common surveys, a Q study requires a small participant sample (Zabala et al., 2018). Q sorts were collected online using the open-source software Easy-HtmlQ 2.03 (Banasick, 2016). Before starting, participants were asked to read an introductory page that included a brief explanation of the research purpose and the sorting instruction. Participants were asked to sort the statements in a quasi-normal distribution from “most agree” (+5) to “most disagree” (-5). Finally, fourteen completed the Q-sort were collected (4 researchers, 4 organic producers, 6 distributors). All Q sorts were cross-correlated and factor analysed using KADE software and applying a PCA factor analysis with a varimax rotation and an additional manual rotation (McKeown and Thomas, 2013). The Brown’s rule was applied selecting factors with at least two statistically significant factor loadings at the 0.01 level (Brown, 1980). Preliminary results indicate the presence of two distinct factors, which accounted for 51% of the study variance. Both factors had a positive perspective on bio-based packaging, however some differences emerged. For Factor 1, which included 7 Q sorts, the adoption of bio-based packaging is perceived as an ethical necessity for the organic food industry. It is the best option to address environmental challenges (14*, +5; 34, -4), because substituting plastic with those alternative packaging will help to solve the “plastic soups” in the oceans (28*, -3) and reduce the pollution of water and soil (27*, -5). This factor also believe that bio-based packaging makes composting processes easier (35*, +3), including the domestic ones. This factor also focuses on economic aspects and production costs to be decreased (8*, +3). Factor 2, which included 6 Q sorts with 5 of them among the distributors, focuses on the importance of reducing the use of packaging in general (25*, +5). They believe that a cultural change is essential to promote a broader adoption (16, +4), and contrary to Factor 1, they highlight the absence of an official and shared definition of bio-based packaging that may reduce the confusion for all players along the supply chain, especially consumers (24*, +3; 35*, -1). Results also show several consensus statements. Both

factors believe bio-based packaging is an excellent application of circular economy (5, +4, +2) and respectful of organic food and farming principles (15, +4, +4). Nevertheless, more incentives are required for a real transition (10, +2, +2; 31, +1, +1). Respondents also asked for a certification to distinguish them from ordinary plastic (4, +1, +2). These preliminary results shed light on the self-theoretical standpoint of organic supply chain actors regarding how they think about bio-based packaging. Policymakers should focus on incentives for bio-based packaging and support adoption instead of fossil raw materials (Kafel et al., 2021). This action could reduce the impact on organic product prices (Wellenreuther et al., 2022). From the production side, results suggest focussing on organic products with a smaller carbon footprint as compared to conventional products. Lastly, to help consumers, there is the need for more informative labels also in relation to waste management of bio-related polymers.

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COPING WITH NEW BUSINESS PROCESSES IN THE DIGITAL ECONOMY OF THE FILM INDUSTRY

Manurung, Elvy Maria

Vocational Program of Parahyangan Catholic University, Bandung, Indonesia.

ABSTRACT

Digital technology as a basis for the digital economy makes life easier on one hand, but on the other hand, this digitalization brings greater uncertainty. The disruption of Covid-19 has spurred the transformation of this digital economy, including the film industry. The study aims to discover how the Indonesian film industry-transforming to digital platforms with all kinds of streaming media and how movie-makers survive. The research was conducted in 2019-2020 using a document study and several interviews. The results show that filmmakers need to recognize this changing and transforming the industry to manage their creativity better and make some innovations. Understanding consumer behavior, new marketing strategies, and new business processes are important factors in their survival and sustainability in the film industry.

INTRODUCTION

The Digital era has brought new challenges by technologies (ICTs) to keep the business sustained, growing, and staying competitive. These new challenges shape the market with a new experience and growth in the use of new digital technologies globally that alters the complex competition landscape (Kelly, 2016; Barroso et al., 2019; Ferreira et al., 2019; Ambos, et.al., 2020). Hence, business opportunities also emerge and boost innovation and job creation in all business areas, especially in the form of startups (Chang et al., 2019; Ladeira et al., 2019). The high speed of innovations will require several changes to organizational, cultural, or even political contexts, and technological development has given rise to new initiatives and promising opportunities to generate new profit that has never existed before (Marino et al., 2020; Garud et al., 2013; Saura et al., 2022).

This kind of “disruptive” innovation brings deep changes and improvements in business patterns that are different from previous ones (Vossen et al., 2017; Li et al., 2018) that will improve the company’s long-term competitiveness and profitability, and also impact the well-being of their communities (Fransman, 2014; Capone et al., 2020). Digitization has penetrated the market as the most influential driver of new consumer behaviors which is also called digital innovation (Rachinger et al., 2019; Marino et al., 2021) and digital economy in terms of new business models, new knowledge, and new technologies adaptation that become increasingly important for entrepreneurs (Clauss et al., 2022).

As a part of other businesses and industries, the film industry has also experienced new era of digitalization. After the covid-19 pandemic, the film industry collapsed due to cinemas' emptiness, where no audiences in it. The risk of being exposed to the corona virus has changed the consumer behavior to watch the movie online using their electronic devices. Changes in lifestyle and consumption patterns from cinemas to digital platform, namely Netflix, Mola TV in Indonesia, Video on Demand such as Viu, iFlik, Disney+Hotstar, etc. have brought many changes to the Indonesian film industry, especially in distribution and exhibition. Films that previously relied on cinemas exhibitions now shifting to digital platforms based on Subscription Video on Demand. Digital cinema contemporary is starting to develop and grow, and its only start with ten thousand rupiah payment to watch movies legally. Seeing this trend of shifting, film industry facing a big challenge to compete and stay competitive in many digital platforms with low profitability. How the movie-makers make strategies to adjust to the new circumstances and maximize the opportunity to generate profit is the focus of this research (Iswahyuningtyas, C.E., and Fajar, M., 2021; Fang, J., and Xiong, W., 2021).

ON FILM INDUSTRY

Film technology developed through many inventions. In the book *"Untuk Apa Seni"* (Sugiharto, I.B., et.al., 2013) the history of film is explained. Film was originally made with a camera obscura (circa 1021) which allowed images to move but could not be recorded. In the 1830s the stroboscope, phenakistoscope and zaetrope were invented by Simon von Stampfer, Joseph Plateau, and William Horner, so that moving images could be made. It was perfected by the 24 series stereoscopic camera in 1878 by Edweard Muybridge in California, who managed to photograph a fast-moving horse. The chronophotographic gun (by Etienne-Jules Murey) and the kinoscope (by Thomas Alva Edison) became the next refinement. With these tools it can be done 12 frames per second, even KineStocope allows moving images. Since then 35 mm film from Thomas Edison and 16 frames per second projection from the Lumiere brothers became the general standard.

It was Dickson and Edison who invented the celluloid tape in 1893 to store image sequences, as well as a more practical camera – the kinetograph – and a cabinet to watch it. The public presentation of live images was invented around 1895 by Max and Emil Skladanowsky in Berlin. They used a duplex construction called "bioscope" which was later adopted into Indonesian. The earliest developed film industry was the "American Mutoscope" in America, the mutoscope Dickson invented used in this industry. In France, the Lumiere family of companies are increasingly displaying their products. At that time what was typical was documentary films, namely actual events in various places. The

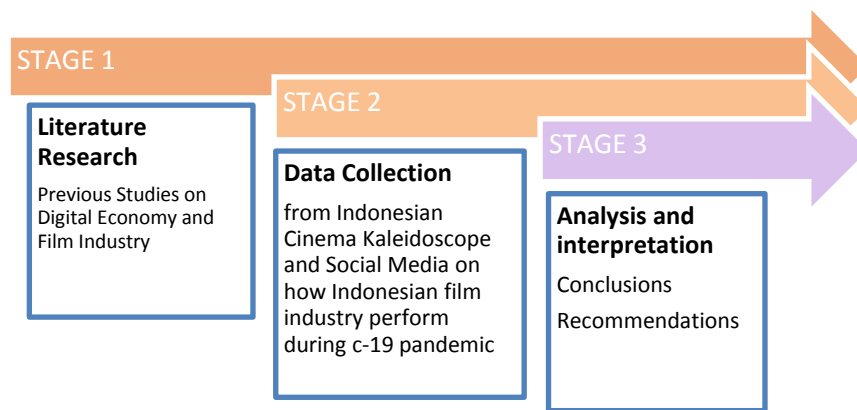
biggest film producer in France is Georges Melies, one of the most famous scenes in the film “A Trip To The Moon” (Hayward, S., 2000 in Sugiharto, I.B., et.al., 2014).

Analog has given way to digital. Although the film industry has witnessed many technological changes—the introduction of sound, of color, the invention of television—digitalization, more than any of these others, has unleashed a radical transformation of the industry. It has changed not just the nature of production, but also the businesses of distribution and of exhibition. It has challenged decades-long industry rules and routines. Film is the combination of scientific technique and the literature and art. Film industry development relies on technology revolution very much. Technology leading plays an important part in film industry history. From last century, a series new digital technology like computer graphics technology, digital audio synthesis technology, 3D technology, digital processing technology, electronic digital information technology, 3D animation, virtual technology and all bring the audience incredible three-dimensional enjoyment and new audio-visual experience. The ways of film production, film distribution, and film storage change a lot. An unprecedented audio-visual spectacle is created on film range, nature, and expressiveness. COVID-19, if anything, has accelerated this transformation. When the pandemic kept people home, streaming services came to the rescue, providing audiences with filmed entertainment on their televisions, computers, tablets, and other digital devices. Since the advent of digitalization in the late 1990s, some of the more radical reconfigurations of the industry had been delayed by those with entrenched interests in the old system. But the pandemic has swept their objections aside (Thurau, T.H., Ravid, S.A., Sorenson, O., 2021).

RESEARCH METHOD

This research conducted qualitative method using document study and several interviews. The documents studied came from *Kaleidoskop Perfilman Indonesia* (Indonesian Cinema Kaleidoscope) 2020-2021 through the website, then proceed with interviewing movie-maker to complete and validate the data.

The research stages are as follow:



DISCUSSION AND ANALYSIS

Data from MPA report 2019 shows that there has been a significant increase in digital film audiences from 2018 to 2019, digital film revenues increased by 29% (Motion Picture Association, 2019). AC Nielsen data in 2017 shows that Indonesian film audiences are dominated by the group of aged 20-34 years with a total of 51 percent, followed by children and teenagers aged 10-19 years with a total of 33 percent. Internet users grew 13.3% in 2018 or increased from 84 million to 95.2 million users. In 2018 to 2023 it is estimated that the audiences will increase by 10.2% (Jayani, 2019). This means that the digital film market has a promising future considering that the majority of our film audiences are users of digital technology.

Unfortunately, even though Indonesia has a large domestic film market, it is still constrained by internet access and the availability of communication technology. The digital film market at the domestic level is not very promising, of course, through digital media platforms, Indonesian films have great opportunities to be watched globally and for a longer time. The digital film distribution and exhibition model not only expands the film market but also extends the life of films and allows older films to retain audiences. Film distribution and exhibition need to be carried out simultaneously through conventional and digital performance spaces. Movie makers should not only depend on one media platform. Digital film exhibitions are important because conventional exhibition spaces are still constrained by the number of cinemas, number of screens, the position of cinemas centred in big cities, ticket prices, and the dominance of foreign films. Although the current digital film exhibition revenue is not too large, seeing the shift in media consumption patterns and the increasing number of digital providers shows the huge potential of the digital film market to be developed. In addition, digital film exhibitions can extend the life of films, expand the film market, and increase revenue in the long run.

Keywords: digital technology, covid-19, digital platform, creativity-innovation, business processes.

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EXPLORING THE EXISTING RELATIONSHIP BETWEEN DIGITAL IMPLEMENTATION, COMMUNICATION SERVICES AND TOURISM INFLOW IN THE "SMART" (R)EVOLUTION IN CITIES

Marchesani, Filippo; Masciarelli, Francesca

Department of Management and Business Administration, University G. d'Annunzio" of Chieti – Pescara, Italy

ABSTRACT

Over the years, smart cities have become at the centre of the urban and economic academic debate in response to cities' sustainable and technological transformation (Goodspeed, 2015). This "Smart" (r)evolution in the city aims to address the current intrinsic problems in urban development such as digitization, pollution, energy consumption, sustainability, and mobility to ensure sustainable growth (Vanolo, 2014). Furthermore, this smart (r)evolution leads cities to implement emerging technologies that raise the impact of the urban ecosystem and its attractiveness at the local and global levels (Florida, Adler and Mellander, 2017; Romão *et al.*, 2018; Christofi *et al.*, 2021; Marchesani and Masciarelli, 2021). Furthermore, one of the objectives of smart development in cities is to better create a relationship with its users and stakeholders by creating a respective advantage in terms of information and services (Trencher, 2019).

In the relationship between cities and stakeholders, the smart city is expected to deal with the urban ecosystem and the interconnection between technology and people (e.g., citizens, governments, and companies) (Albino, Berardi and Dangelico, 2015). At the same time, there is growing literature on the tensions underlying 'techno-utopian' visions of smart cities trajectories that make it a challenge for policy-makers to move from smart and technological imaginaries of smart city discourse to tangible intervention with their stakeholder (Martin, Evans and Karvonen, 2018).

As users and stakeholders, tourists are one of the most sensitive subjects to this "smart" (r)evolution in cities (Gretzel *et al.*, 2015). If, on the one hand, the cities improve their relationship with the tourist flows by implementing information systems and services aimed at facilitating the experience of tourists in the city (Shafiee *et al.*, 2021), on the other hand, they attract a new tourist flow more attentive to dynamics and themes strictly connected to a perspective smart (Sustainability, mobility, technology and environment) (Nilsson, 2019). This relationship has helped create a new line of study that focuses on smart and sustainable tourism, highlighting how the relationship between cities and tourists has profoundly changed over the years (Shafiee *et al.*, 2021).

Today, the relationship between tourism and technology implementation is at the heart of recent academic research (Gretzel *et al.*, 2015; Buhalis, 2020), and evolving in new research areas such

as smart tourism (Matos *et al.*, 2019) and the practical study of the phenomenon, which, even today, is difficult to evaluate.

In this study, we focus on the main 20 Italian cities ranging from 10 years (2011-2020) to evaluate the linkage between digital implementation in city and tourism attractiveness at two different levels (local and organizational). First, we considered the spatial relationship between digital implementation in cities and tourism inflow (H1). Second, we considered the cities' organizational level by evaluating the impact of communications services (APP and cities' Websites) taken in places by each city on tourism inflow (H2). Finally, we also considered the cities' communications services as a moderator in the relationship between digital implementation and tourism inflow in cities (H3).

Hypothesis tests were performed using a panel data regression analysis model and GMM methods. The analysis focuses on the impact of a diverse array of digital implementation processes in cities (9 Variables) synthesized into the Index of "Digital implementation Index". To evaluate the tourism inflows, we used a Principal Component Analysis to create a variable considering 6 tourism variables focusing on the visiting reason (art, theatre, museums, sport) and tourism inflow (booking Hotel and transport tourism inflows). As a communication service, we proposed a qualitative analysis to evaluate the Mobile APP and Official Website to build indicators relating to communication and services between cities and tourists.

Our results underline an interesting relation between digital implementation in cities and tourism inflow in the urban scenario by showing that a high level of digital implementation in cities (local) and communication services (organizational) influences tourism inflow. On the one hand, this relationship confirms the central role that technology is acquiring in the urban context; on the other hand, enhancing the communication and transmission of information increase the effect of digital implementation in the city on incoming tourism and could create a complementarity effect.

The main theoretical implication of this study refers to the evolution of the relationship between digital implementation, communication services and tourism inflow as, today, those variables and concepts are still difficult to classify. Accordingly, we have proposed several variables useful to assess that phenomenon that can be used in future empirical studies to evaluate smart city development. Furthermore, this study aims to offers also several managerial implications related to city communication and policies. First, it suggests that smart investments in communication services and digital implementation enhance the capacity to attract and generate a new tourism inflow. Second, from a strategic perspective, cities could take advantage of both opportunities and implementation and launch new business models and strategies according to actual citizen needs and the emerging trends placed in cities' smart (r)evolution.

Keywords: Smart City, Smart Tourism, Mobility, Digital, Smart, Technology, Communication, City, Attractiveness

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BLOCKCHAIN TECHNOLOGY BASED APPLICATION FOR FUTURE SUSTAINABLE FOOD SUPPLY CHAINS: A BIBLIOMETRIC LITERATURE REVIEW

**Mariantonietta, Fiore¹; Finco, Adele²; Crescimanno, Maria³; Nino, Adamashvili¹; Deborah,
Bentivoglio²; Giulia, Chiaraluce²; Giacomo, Staffolani²; Contò, Francesco¹; Galati, Antonino³**

¹Department of Economics, University of Foggia, Foggia, Italy

²Department of Agricultural, Food and Environmental Sciences, Università Politecnica delle Marche, Ancona, Italy

³Department of Agricultural, Food and Forest Sciences, University of Palermo, Palermo, Italy

ABSTRACT

RESEARCH BACKGROUND AND AIM OF THE STUDY

In the purchasing decisions of today's consumer, knowing the origin of the products plays an increasingly important role. This is a factor that, in the agri-food industry, acquires even more importance in consideration of the recent food scandals which have undermined the overall credibility of the industry, leading firms to invest more in transparency and traceability along the supply chain (Barbarossa et al., 2016). In order to ensure traceability, several technologies including Radio Frequency Identification Devices (RFID), Barcode readers, isotopic technologies, have been developed over the last few years, aimed to offer detailed information related to the product or stakeholder activity at any nodes in the chain (George et al., 2019), allowing a processes and terminologies standardization, with international value. Despite the reassurances these systems have made to the various production sectors, often they guarantee information related only to certain aspects, such as shrinkage control or other quality control measures, accessible only to some actors and not to others, and in some cases, these are particularly expensive allowing it only by organizations that can afford higher technology implementation costs (George et al., 2019; Awaysheh and Klassen, 2010). This factor has led firms to invest in new, more reliable systems and above all characterized by wide accessibility by all the players in the supply chain, also the final consumer (Catalini and Tucker, 2018). In this context, Blockchain (BCT) is the latest technology, that, based on the same concept of process standardization, adds a further element represented by the guarantee of greater safety for the consumer, and for the entire chain, as identified by Montecchi et al. (2019) in a diffused knowledge about "origin, authenticity, custody, and integrity" (Montecchi et al., 2019; p. 286).

Recent literature highlights how this technology is able to bring tangible improvements at the supply chain level. In this regard, there is an extensive discussion on the advantages resulting from a constantly monitored movement of single inputs, and then greater transparency in the supply chain,

in terms of knowing who does what, where and when (Boschi et al., 2018; Kshetri, 2018). Moreover, other advantages are measured in terms of reducing some operational costs, in particular transaction costs, also as a result of the elimination of intermediaries (Tönnissen and Teuteberg, 2019). Last but not least, BCT entails the reduction of food fraud (Ge et al., 2017), an important aspect especially in the wine industry (Biswas et al., 2017), and for Made in Italy as a whole, and risks of food safety problems, such as food contamination (Kamath, 2018). However, several authors emphasize that the introduction of this technology presupposes, as a basic element, a supply chain that for the most part already has in place internal standardized processes of traceability (Bumblauskas et al., 2019) and which can therefore be considered ready to adopt more advanced systems. Beyond this, it is still necessary that the firm has reached a modest level of internal technological maturity that allows it to implement and therefore adequately manage the system (Kamble et al., 2019).

In the agri-food industry, the BCT can be used to solve urgent issues such as food safety, food fraud, supply chain inefficiency and food traceability (Costa et al. 2013). Previous studies explored the blockchain in the food supply chain by applying for instance case studies (Galati et al., 2021; Zhao et al., 2019), or empirical surveys (Hackius and Petersen, 2017). Findings reveal benefits, i.e. efficiency and transparency of the supply chain, and constraints, i.e. lack of capabilities of human resources and lack of legislation. However, very few studies carefully explored the literature on this research field. The purpose of this paper is to show a panorama of the scientific studies on the application of blockchain in the agri-food sector by reviewing the extant literature. This work aims to gather knowledge on how scholars have addressed the questions of BCT until today and to assess its benefits and criticalities related to its adoption or potentiality, considering that the BCT is a recent digital evolution and only lately this technology has found a place also in this sector.

METHODOLOGY

The aim of the present study is to collect and scrupulously analyse the extant literature investigating the role of blockchain technology application in the agri-food supply chain, through a productivity and bibliometric literature review. The bibliometric analysis can highlight several interesting information available in the literature, supporting a structured review. VOSviewer is one of the most popular software used by researchers to do so. It allows users to create, visualise and explore maps based on network data (Van Eck, and Waltman 2020). The map is a visual representation of the topic by showing the relationship between items (keywords, authors, papers, countries) in the field. The maps normally guide the analysis, but expertise in the field is still necessary for a proper interpretation of them, to understand each cluster and give sense to the data.

The research will be carried out in two different databases, Scopus and Web of Scienc (WoS), to expand the range of eligible documents. Since Scopus and WOS are recognized as as covering a notable range of high-ranking journals and peer-reviewed articles of high quality, these platforms were selected for our analysis (Barbosa, 2021; Niknejad et al., 2021). First, an appropriate sequence of keywords, based on the research objectives, will be carefully selected. As the research topic is recent and not so widespread in literature, the search string was kept as generic as possible, to try to include all the published works. After several tests, the final search string is ((blockchain OR “block chain”) AND (agr* OR food)) to examine the structure and substance of blockchain technology in food and agriculture literature. This string allows to include a consistent number of paper, but at the same time deal with a manageable number of studies focused on the topic of interest. Data collection will be performed for each database separately, using the same methodological criteria. After the identification of the rough databases, the list of documents will be skimmed according to these criteria:

- i. Including only articles, reviews, and book chapter written in English.
- ii. Including only the documents where the full text was available to read.
- iii. Removal of overlaps between Scopus and WoS.
- iv. Including only papers where title and abstract were relevant to the research question.

To avoid subjective decisions, four authors will perform the screening of literature.

The selected articles will be studied and integrated with an in-depth content analysis. A productivity analysis will be carried out in relation to the articles' trends over the years, the distribution of articles among journals, the geographical distribution, the theoretical approaches used, the methods employed. The latter is a process necessary to perform a content analysis and summarize results in clear dimensions of the phenomenon under investigation (Seuring and Gold, 2012). Finally, the bibliometric analysis will be carried out using VOSViewer (1.6.16). The bibliometric mapping approach is data-driven and relies heavily on computer algorithms and visualization techniques. For the purpose of the study, co-occurrence will be exploited in depth. Co-occurrence analyses the most frequent keywords, consequently providing a deeper insight into the main topics and research trends (Chiaraluce et al., 2021).

EXPECTED RESULTS AND IMPLICATIONS

The present study aims to collect and scrupulously analyse the extant literature investigating the role of Blockchain technology application in the agri-food supply chain. BCT, as previously emphasized, can solve several issues of the supply chain offering countless advantages for both producers and consumers. At the supply chain level, the adoption of BCT makes possible to monitor

the product from farm-to-fork, eliminating the risks associated with food fraud and ensuring the food safety of products. From the consumer's point of view, the technology offers an effective traceability system, responding to the demand for food safety, and sustainability.

Our findings contribute to enrich the current literature on the BCT adoption to ensure a sustainable supply chain management in the agri-food system, allowing new prospects for academics and practitioners on how to further exploit the potentiality of this emerging technology to make more sustainable food supply chain on the economic, social and environmental point of view. A limit of the study is represented by the fact that a bibliometric review cannot provide a comprehensive framework of the development and current status of the field.

Keywords: Blockchain, Innovation, food system, traceability, agri-food industry, food safety, food fraud, VosViewer.

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BLOCKCHAIN TECHNOLOGY ACCEPTANCE IN WASTE MANAGEMENT: A TAM2-BASED ITALIAN CASE STUDY

Marinsanti Rwakihembo, Gloria Diana; Faggioni, Francesca; Rossi, Marco Valerio

Dept. Business Studies, Roma Tre University, Rome, Italy

ABSTRACT

INTRODUCTION

The growth in population rates, industrial development, and urbanization are causing an increasing waste production, negatively affecting the environment and the global society (Zhang Yu *et al.* 2022). The management of waste collection and disposal has become a severe concern and a tough task for the government and city authorities (Gupta S. Y. *et al.* 2021, Guerrero *et al.* 2013) who are about to front a growth of waste generated expected to hit 3.4 billion tons by 2050 (Silpa *et al.*, World Bank Group, 2018). Currently, there are several challenges with waste management, specifically with solid waste management. Those are the lack of traceability, the loss of economic value of waste, the lack of control, and the lack of mechanisms for policy implementation (Gopalkrishnan K. P. *et al.* 2020). The issue of waste is highlighted in goal 11 of the United Nations Sustainable Development Goals 2030, i.e., “Sustainable Cities and Communities” where the target 11.6 aims at reducing the adverse per-capita environmental impact of cities by paying attention to municipal and other waste management by 2030 (The Global Goals).

Blockchain is one of the technologies considered a means for avoiding mismanagement of waste by designing efficient systems with the right number of vehicles, establishing efficient routes, setting targets, and tracking progress with accurate data management (Silpa *et al.*, World Bank Group, 2018). The use of blockchain technology is growing worldwide, given its structural characteristics aimed at security and information integrity, without the need for a central guarantor. In fact, blockchain is a decentralized network that uses Distributed Ledger Technology (DLT) to process data in a transparent, immutable, and secure manner (Gupta Y. S. *et al.* 2021). Yet, the adoption of blockchain technology is often accompanied by several challenges and issues.

The purpose of this research is that of investigating the current blockchain technology acceptance when applied to waste management. In particular, the Italian case is being analyzed to understand the perception of blockchain for managers belonging to the Public Administrations and to the companies where the waste management is externalized.

METHODOLOGY

To reach the goal of understanding the perception of blockchain technology waste management, the following research question has been formulated: “what is the waste managers’ perception of blockchain technology in Italy?”. After developing new technologies, it is important to consider the adoption rate to help the decision-makers to understand what the issues and the approach of the potential users might be (Taherdoost 2022). The acceptance rate helps decision-makers in the development step to consider the problems that users may face through applying technology in order to obtain better results in the innovation process. Several blockchain adoption frameworks have been developed (Taherdoost 2022). Among those, the Technology Acceptance Model 2 (TAM2) has been applied to this research as the framework that best suits the research purpose. The TAM framework was introduced as an extension of the Theory of Reasonable Action (TRA) and Theory of Planned Behavior (TPB) and has taken a leading role in explaining users’ behavior toward technology (Maragunic *et al.* 2015). The TAM2 framework examines the favorableness and unfavorableness toward the use of blockchain technology and helps to address the limitations of the original model (Taherdoost 2022) considering not only the perceived ease of use and the perceived usefulness, but also the social and cognitive influence, with the anchors and adjustments (Wu *et al.* 2011). The research methodology is based on a quantitative analysis approach and the primary data has been collected through a questionnaire using online Google Forms for a sample size of 30 respondents targeting the Italian waste management companies working for the Italian municipalities.

ORIGINALITY/ INNOVATIVE VALUE

The innovative added value of the research in progress consists of the first-time involvement of the waste managers in the possible blockchain adoption in waste management in Italy. By outlining the sentiment of managers toward blockchain technology, the paper aims at offering an overview of the educational and financial needs that might be creating a distance between blockchain technology and waste management systems. The results of this research aim at being a contribution to the United Nations Sustainable Development Goals (SDGs) by highlighting possible technological solutions and the limits to their adoption that have to be considered by researchers, and companies when advancing blockchain technology in waste management proposals.

EXPECTED RESULTS AND CONCLUSION

Studies show various emerging technologies such as the internet of things (IoT), blockchain technology, and cyber-physical system could help in strengthening the waste management system

(Zhang Yu *et al.* 2022). Blockchain has been shown to have great potential to promote sustainable development (França *et al.* 2020) by transforming operational processes (Taherdoost, 2022). Blockchain technology can favor the adoption of circular practices in waste management through traceability in waste flow management and vertical integration that identifies those responsible for the entire lifecycle of waste. This allows for the optimization of waste flows, with a reduction in management costs and control time (Krajnakova *et al.* 2019, Centobelli *et al.* 2020). Yet while the growth of smart waste management systems using the Internet of Things (IoT) has been prevalent, the use of blockchain in this application area is still scarce (Sen Gupta *et al.* 2021) and the introduction of blockchain-based systems still appears not fully approved by managers (Walsh *et al.* 2022). Although the research is still in progress, managers still perceive blockchain as a tool to improve technical efficiency, and job performance, while they do not perceive blockchain's utility in terms of reduced cost (Sciarelli *et al.* 2021).

Keywords: blockchain; dlt; waste management; tam2

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LIVING LAB BENEFITS FOR EVIDENCE-BASED EDUCATION AND OPEN INNOVATION: THE ESHIP CASE STUDY

Martins Batista, Maria Manuela¹; Chkoniya, Valentina²; Cruz Gonçalves, Fernando¹

¹Escola Superior Náutica Infante D. Henrique, ENIDH, Paço de Arcos, Portugal,

²GOVCOOP, ISCA-UA, University of Aveiro, Aveiro, Portugal

ABSTRACT

As society changes rapidly, there is a need to educate professionals who contribute to innovation and complex adaptations in organizations, and Living Labs are recognized as educational environments to prepare students in higher education for future roles (van den Heuvel, Braun, de Bruin, & Daniëls, 2021). There is a trinomial relationship between Academy, Society, and Industries, which are interestingly far more exploited than the Education and Research. Effective management of the knowledge and information transferred between open innovation ecosystem partners is crucial (Chkoniya, Gonçalves, & Batista, 2021). Living labs generally combine a real-life setting, co-creation, active user involvement, multi-stakeholder participation, and a multi-method approach (ENoLL, 2022). Since the 2003 publication of Chesbrough's seminal work, Open Innovation paradigm is shaping the world we live in, and scholars belonging to a wide variety of academic disciplines are investigating the opportunities deriving from such a revolution.

The scientific development of both concepts is an active field in the academic community, and new ideas appear, opening new paths of knowledge transfer methods with knowledge from data. And Living Labs can be used as adaptable platforms where researchers and practitioners collaborate to carry out evidence-based research and innovation on educational processes (Montero & Krawczyk, 2021).

The success of Open Innovation in enhancing innovation development has resulted in public authorities incentivizing firms to adopt the paradigm through public subsidies for research and development activities (Bigliardi, Ferraro, Filippelli, & Galati, 2021). As a leading institution in the training of professionals linked to the maritime and logistics areas, the Escola Superior Náutica Infante D. Henrique (ENIDH) is involved in the eShip project, supported by the EEA Grants. Thus embodying its role as a promoter of technological and digital progress in the sector. The eShip project aims to digitize the vessel chartering process, thereby cutting management costs and fueling the digital transition.

The primary objective of the eShip project is to develop a digitalization model for the entire chartering process, from the market research stage to the completion of the trip, including freight negotiation and contracting, real-time trip analysis, overage calculations, /sub-stay, issuance of shipping and billing documents, post-trip analysis, and regulatory compliance. This electronic platform will be tested in two

pilot projects using an innovative approach in technological and pedagogical terms, through Living Labs, focusing on the Liquefied Natural Gas (LNG) market, which is located in evident rise, and Solid Bulk (Kyas, Springer, Pedersen, & Chkoniya, 2021).

Using the eShip Case Study, this paper demonstrates that Experience-Based Expertise and Open Innovation must be understood as a single process, where Living Labs that involve Academies and Enterprises create unique conditions for society's progress.

Keywords: Education 4.0, Industry 4.0, Knowledge Transfer, Living Lab, Pilot Project, EEA Grants, Maritime Education, Growth Mindset, Learning Process, Network

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GREEN NUDGES EFFECTS ON FARMERS' ADOPTION OF SUSTAINABLE INNOVATIONS

Migliore, Giuseppina¹; Rizzo, Giuseppina¹; Schifani, Giorgio¹; Vecchio, Riccardo²

¹Department of Agricultural, Food and Forest Sciences, University of Palermo, Italy

²Department of Agricultural Sciences, University Federico II, Naples, Italy

ABSTRACT

The massive use of chemical inputs in crops has led to a sharp increase in agricultural production. However, this has also contributed to rising air, soil and water pollution, negatively impacting the rural ecological environment and the physical health of humans (Li et al., 2020). The implementation of sustainable agricultural innovations has emerged as an effective way to solve the problem and a viable alternative to mitigate the environmental impacts generated by agricultural productions. To fulfil these objectives and achieve 'green agriculture', the European Commission has adopted a series of proposals in the Common Agricultural Policy (CAP) to minimize the negative impact of the sector on the natural resources. These proposals are mainly oriented to define measures to subsidize investments to encourage the adoption of agri-environmental schemes where farmers commit to reducing their use of chemicals in exchange for a predetermined annual payment.

Current study investigated the potential impact of an alternative intervention called 'nudge', which is based on the findings of behavioural sciences and could complement existing CAP measures, contributing to addressing the problem of chemical pollution in European agriculture. Nudges use subtle changes in decision-making contexts to trigger socially-optimum behaviours without altering the effects of monetary incentives. Different types of nudge have been analysed in the literature on farmers' decision making, showing a positive influence especially in encouraging pro-environmental behaviour. The most used are those that leverage on the moral norms of individuals, and those based on social norms, that is, that exploit the inclinations of individuals to imitate the behaviour of their peers (Peth et al., 2018; Schubert, 2017). Although the literature is still quite limited, these two nudges are mostly used individually and rarely in conjunction, producing in some cases conflicting results (see among the other Kuhfuss et al. 2016; Peth et al., 2018). Additionally, studies analysed the effects of these nudges without differentiating the type of innovation. According to the literature on innovations, in fact, two main types of innovation may be identified that differ by the degree of new knowledge embedded in the innovation. They are classified as incremental and radical innovations, and may have a different impact in the innovation adoption process (Dawar and Dutton, 1986). Indeed, incremental innovations are easier to implement, while radical innovations involve a greater investment of skills, time and money and a change of work routine (Baregheh et al., 2012).

The aim of this study was to understand whether and to which extent the two nudges (moral norms and social norms in conjunction with moral norms) have an effect on the intention to adopt the type of innovation: incremental and radical innovation. The study was based on an experimental survey addressed to a non-random sample of 150 Italian winegrowers. The wine sector was selected as a case-study as scientific evidence has proven that viticulture contributes to the increase of greenhouse gasses emissions and requires heavy use of synthetic pesticides and fertilizers (Blanco-Ward et al., 2019). In the experiment participants were randomly assigned to two groups (group A and group B) receiving a distinct nudge message according to their assigned treatment: in group A participants were provided with information about the consequences of non-compliant behaviour regarding the use of chemicals in viticulture (moral norms nudge). This information was supported by pictures of a dead bee. Group B received, as for group A, the same information and picture, but with an additional social comparison (social norms nudge). In the supporting text provided, it was emphasised that colleagues in the same region comply with the reduction of chemicals. The probability of adopting each of the two types of innovation is also examined as a function of the nudge received. Findings will show whether and to which extent the two nudges (moral norms and social norms in conjunction with moral norms) have an effect on the incremental and radical innovation adoption process. This could have both theoretical and policy implications. From a theoretical point of view, the findings enrich the literature on the effect of green nudges on the adoption of sustainable innovation. In terms of policy implications, a clear picture of the effect of green nudge on farmer's innovation adoption could be useful for better addressing tailored policy measures to encourage sustainable innovations in the agricultural sector.

Keywords: incremental innovation; radical innovation; salience nudge; social comparison nudge; behavioural science; choice architecture.

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ARE RELATIONSHIPS POSSIBLE WITH BEHEMOTH?

Mitrega, Maciej

Department of Organizational Relationship Management, University of Economics in Katowice, Katowice, Poland

ABSTRACT

The recent systematic review of networking capabilities demonstrates that we actually have a very limited understanding of the consequences of applying networking capabilities (NC) beyond general performance indicators and beyond case studies (Arasti et al., 2021). Thus, this study extends the knowledge about NC by examining the effect of three types of networking caps, namely developing caps, handling caps, and expanding caps, on the foreign market performance of SME manufacturers in the context of the Polish furniture manufacturers dealing with more powerful retailers during the specific period of the Covid-19 pandemics. Additionally, we contribute by demonstrating the interaction between some specific networking caps and the own branding resources, which we present as a strategic resource in the context of small manufacturers.

Following prior conceptualizations of NC in industrial marketing (Mitrega et al., 2012) we define NC as a set of business practices routinized in manufacturing SMEs to expand (1), develop (2) and manage business relationships (3), specifically in terms of active networking within the portfolio of business customers. There is evidence that there should be a difference between using NC mainly in the form of deepening existing relationships, i.e. NC developing, and in questioning relationship status quo by expanding towards new partners and downsizing and eliminating some uncomfortable partnerships, i.e. NC expanding and NC managing. Although current research in this area is limited to only NC's general connection with company performance and product innovation, here we apply dynamic capabilities view or DCV (Teece et al., 1997) as the theoretical structure relevant for explaining foreign market performance. Specifically, we hypothesise that in the advanced international stage, i.e. when the company generates a large part of turnover through export markets, the company must introduce some attempts to expand its portfolio of partners (i.e. exploration) and to make use of existing partners (i.e. exploitation) to sustain performance in foreign markets during the crisis.

The business capabilities for multidirectional networking are especially important while confronting volatile changes because in such an environment opportunistic behaviour is intense and dangerous for smaller players being afraid of exploitation (Mitrega & Choi, 2021). Consequently, distinct NCs (expanding, developing, managing) is needed to handle an unstable situation in foreign sales from the perspective of small manufacturers. The influences are hypothesized as multidirectional. Specifically, capabilities for developing and managing caps are useful to increase performance with foreign

customers, i.e. mostly retailers but also direct business buyers like restaurants, offices or other bigger manufacturers, while better relational performance translates into their better financial results on foreign markets. On the other hand network expansion caps are need to acquire fresh blood and release some resources invested in the existing relationship portfolio, especially concerning fading relations. Additionally, we hypothesize the moderation effect related to two different business models, i.e. selling brand name products directly to customers vs. selling products as private labels via middlemen. In the case of companies successfully focused on building their brands on foreign markets the impact of NC expansion on foreign financial performance is stronger than in the case of manufacturers that did not build their own brand resources yet, however, such manufacturers receive stronger relational benefits by utilizing their developing and managing caps.

Figure 1. Research model

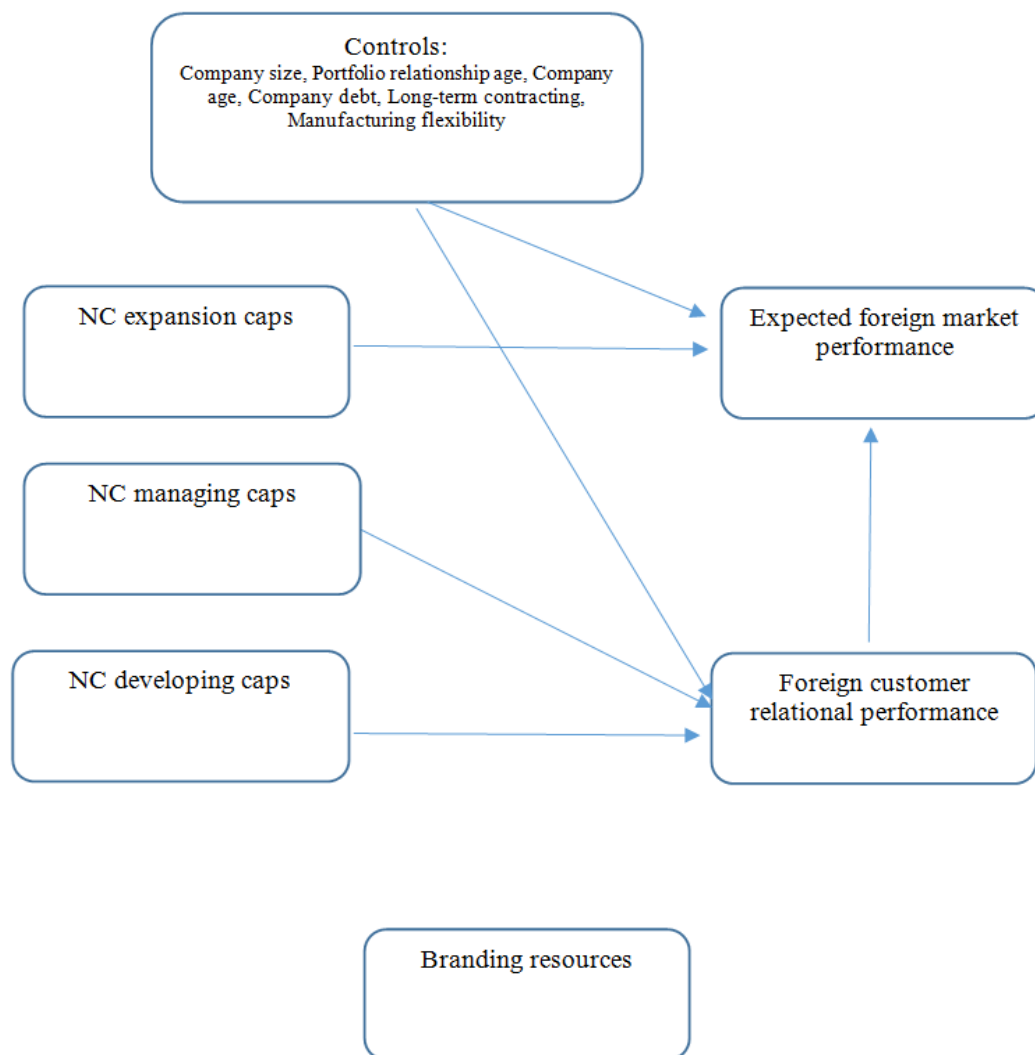


Figure 1 presents the hypothesized research model with hypothesized influences while some variables are used just to control the impact of other important factors on relational performance and financial performance.

The hypothesized model was tested on the cross-sectional survey data collected on a sample of 250 purposefully selected SMEs manufacturing furniture based in Poland as one of the biggest CEE countries.

Using partial least squares path modeling, which is also known as PLS-SEM, we provided relatively strong support for all hypothesized research paths, including moderating effect from branding resources tested with Multi-group analysis algorithm (MGA) in SmartPLS 3.0 (Ringle et al., 2022).

This study contributes to our understanding of applying specific networking capabilities to sustain effectiveness on export markets in the outburst of environmental crises. In line with the dynamic capabilities approach the study illustrates that facing Covid-19 disturbances manufacturing SMEs can engage in some processes that leverage the efficiency of their current strategic relationships and allow them to expect optimistically performance on foreign markets. Therefore, this study proposes dynamic NC as the key tool for small manufacturers to leverage their position in the international supply chain. The study provides a nuanced picture of using NCs on international markets during the crisis. While NC capabilities oriented at current customer relationships are needed to protect relationship pie (Dyer et al., 2008), the NC capability to expand the network by initiating new customer relationships create a better future for the focal company in terms of improved performance on export markets.

The study extends prior research on utilizing NC by illuminating the positive interaction between company branding resources and using NCs. Specifically, the effect of NC managing on customer performance is much stronger, when the manufacturer manages problematic relationships with existing customers and builds some new partnerships when equipped with a recognizable brand in contrast to only supplying brands of some other big manufacturers or retailers.

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Keywords: relationships, networking, crisis, small manufacturers, dynamic capabilities

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AN EXPLORATORY ANALYSIS OF THE FACTORS INFLUENCING RISK-BASED AUDITING

Moschidis, Stratos¹; Chatzipetrou, Evrikleia¹; Drogalas, George²; Kleisa, Konstantina²

¹Accounting and information systems, International Hellenic University, IHU, Thessaloniki, Greece

²Business Administration, University of Macedonia, UOM, Thessaloniki, Greece

ABSTRACT

The goal of this paper is to conduct an exploratory statistical analysis of the factors that influence the Risk Based Auditing (RBA). These are the Internal Audit System (IAS), the Audit Committee (CC), and the RBA's collaboration with entities such as internal-external auditors, managers, risk managers, and fraud investigators (COOP). An empirical study was conducted with the use of an appropriate questionnaire, based on bibliographic findings. The questionnaire was distributed to executives of Greek companies, as part of the research. The method of multiple correspondence analysis (MCA) was chosen as the most appropriate to analyze the direction of variance for the analysis of the questionnaire answers and due to the nature of the data. The most important finding is that people who believe risk-based auditing has a small to moderate contribution tend to respond in the same way as people who believe internal control is used to a moderate extent. This study is an original research focusing on the field of risk-based auditing in Greek businesses. It attempts to analyze the views and perceptions of all stakeholders regarding risk-based auditing. The research presents useful implications on both a theoretical and practical basis. On the theoretical level, an extensive literature review in relation to the RBA is provided, while on the practical level, the study discovers useful trends among the categories of variables examined that can be used by Greek companies. Furthermore, findings can serve as a foundation for modeling to highlight the direction of the influence of these factors on RBA.

BACKGROUND AND METHODOLOGY

Business risk management appears to be an obligation in the contemporary and volatile business sector to develop a safe operational framework against business dangers that can threaten not only the credibility but also the general viability of firms. Furthermore, the need for risk-based auditing has been emphasized by developments in the financial and technical environments. The internal control system interacts with RBA, according to a number of papers (Castanheira, Lima Rodrigues and Craig, 2010; Bozkus Kahyaoglu and Caliyurt, 2018; Boskou, Kirkos and Spathis, 2019). Using the Multiple Correspondence Analysis (MCA) method, in order to analyze the questionnaire concerning the IAS and RBA factors, we discovered the main trend, which can be characterized by the first factorial plane, which sums up approximately 73% of the total inertia of the data. People who respond

V7_3,V6_2,V8_3,V9_3 to the IAS are correlated with those who respond V26_2,V23_2,V25_3,V24_3,V22_3 to the RBA. This contrasts with those who answered V26_5. These findings are also depicted in the figure below. Questionnaire: https://drive.google.com/drive/folders/1D_zCzpKZNQ_mXJOzMwOeXrshh3CwL_sC?usp=sharing

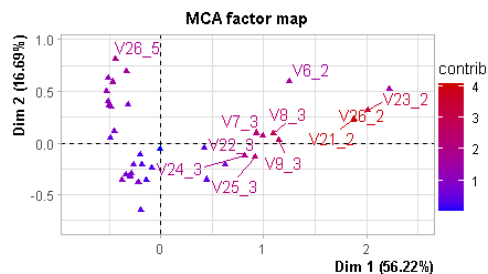


Figure1: First factorial plane with most important points by contribution

Similarly, other researchers (Abbott et al., 2016; Buallay and Al-Ajmi, 2019; Drogalas et al., 2019) articulated the importance and characteristics of the audit committee's influence on RBA. Using the MCA to analyze the data, we discovered that the first factorial plane interprets approximately 70% of the total inertia of the information in the CC and RBA data. By keeping only the most important points of the plane, i.e., those that contributed more to the plane than the average point contribution at the plane, we see that respondents V12_3, V11_3, V14_3 for CC are similar to those who responded V23_2, V21_2, V26_2, V25_3, V22_3, V24_3 for RBA. They also contradict the responses of V26_5.

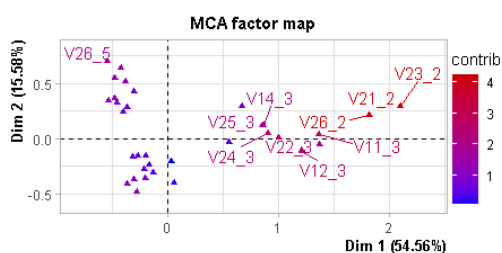


Figure2: First factorial plane with most important points of CC and RBA

A number of researchers (Görener, 2017; Quick and Henrizi, 2019) also highlighted the relationship between RBA collaboration and *stakeholders* (e.g. board of directors, risk manager, etc.). During the data analysis, a dominant trend emerges, which interprets approximately 68% of the total inertia of the COOP and RBA data. According to this trend, and taking into consideration the most important points of the factorial plane, we observe individuals who responded V19_3, V20_3, V15_3, V17_3 for COOP to be with individuals who answered V21_2, V26_2, V23_2, V24_3, V25_3, V24_3 for the RBA. These individuals are also at odds with the people who responded V26_5.

CONCLUSIONS

This research explores the interactions of risk-based auditing factors in Greek enterprises using a bibliographic and empirical approach. A customized questionnaire based on bibliographic findings was issued to executives of 96 Greek enterprises for the empirical determination of the interactions. The following conclusions are drawn from the results of the exploratory study using the Multiple Correspondence Analysis method. Individuals who respond that there is a little to moderate utilisation of IAS characteristics in their businesses are on the same page with individuals who respond that the contribution of RBA is from small to moderate in the respective categories of variables. This also emerged as a trend in the analysis of the CC and RBA variable categories. The same pattern is seen as a dominant trend in the analysis of the COOP and RBA variable categories. At a later point, an effort will be made to supplement this research with data from various European Union countries in order to examine the diversity of responses among EU member states.

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SHOULD I STAY OR SHOULD I GO – KEY DETERMINANTS FOR EFFICIENTLY RETAINING A SUBSCRIBED CUSTOMER WHO DECIDED TO LEAVE

Muratčehajić, Denis; Loureiro, Sandra Maria Correia

Iscte-Instituto Universitário de Lisboa, Business Research Unit (BRU/IUL) Lisbon, Portugal

ABSTRACT

Subscription-based businesses have exponentially outperformed product-based businesses since 2012, leading to a revenue growth rate seven times higher than S&P 500 companies' growth in 2020 (Zuora, 2021). Also formerly product-based businesses such as the New York Times have successfully managed the shift towards subscriptions with an increase of 690 percent in digital subscriptions from 2015 till 2020 (New York Times, 2021). At the same time, however, churn rose considerably, too. Digital service subscriptions have recently reached churn rates of up to 52 percent (Seitz, 2015; Zuora, 2021). This recent development increases the importance of retention management for subscriptions as a central construct and future research direction in marketing research (Schweidel, Bradlow and Fader, 2011; Ascarza *et al.*, 2018; MSI, 2020), which has been underrepresented for years (Homburg, 2017).

Although there is empiric evidence it is up to six times more profitable to retain an existing customer than acquiring a new one (Reichheld and Sasser, 1990; Farris *et al.*, 2011; Hwang, 2016), and that customer retention management is a central profitability driver (Ascarza and Hardie, 2013; Lemmens and Gupta, 2020), most top executives struggle in retaining their customers (Rioux, 2020). On the one hand, the rise of churn in recent years has further increased the need to develop proper retention strategies. On the other hand, the question of what influencing variables mostly affect customer retention performance, particularly in the specific context of subscription services, has remained insufficiently illuminated. Thus, identifying these key determinants is considered as relevant research gap.

Before addressing this challenge, two phases for managing customer retention in subscription settings need to be distinguished: (1) the indefinite (proactive) retention and (2) the definite (reactive) customer retention (Ascarza *et al.*, 2018). The first includes the service usage period before contract termination, while the definite customer retention phase embraces the period after termination. Consequently, the indefinite retention phase includes many uncertainties about the churn probability and so the need for retention measures, whereas the definite retention phase is clear: If the firm does not induce counteractive measures, the client is gone.

To address this arising question of retaining a customer who already decided to leave, this study is aimed at finding answers to two central research questions: **(RQ1)** What variables have a significant impact on a customer's decision to stay with a firm after terminating a subscription?; **(RQ2)** What is the efficiency of individual marketing mix variables on customer retention?

To appropriately address the research gap of a comprehensive conceptualization of customer retention efficiency and its key determinants, an exploratory procedure to develop grounded theory is applied (Edmondson and Mcmanus, 2007). The procedure involves integrating field-based insights of 25 customers who have recently rejected their churn decision stimulated by on a subscription firm's counteractive measure with supplementary literature pointing to the influencing factors of customer retention success. Even though many influencing factors on customer loyalty seem obvious, the underlying assumption is there are significant differences in the impact of individual marketing activities on customer retention efficiency (or return on marketing invest). Thus, the first part of the study deals with conceptualizing the influencing factors on customer retention success based on a systematic literature review. Figure 1 provides an overview of a first overview of main influencing factors which are split into marketing-mix- and customer-relationship-related variables.

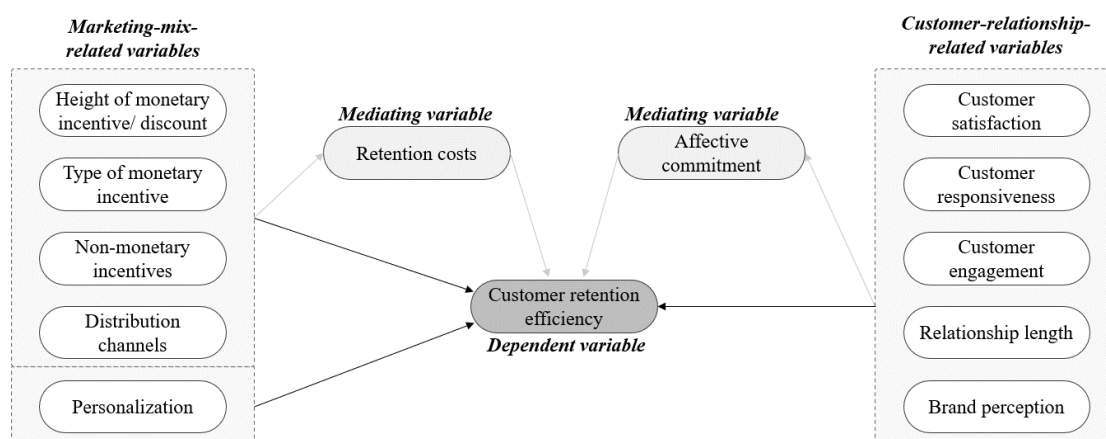


Figure 5: Conceptual model of influencing variables on customer retention efficiency (source: own elaboration)

Moreover, as customer retention activities differ in costs, driving the profitability of a firm requires to consider efficiency-related cost factors which again allows to better allocate budgets. The efficiency factor is particularly addressed at the second stage of the study, where both the effectiveness and efficiency of each influencing variable is measured based on a field study with retained customers across numerous types of subscription services. In this part of the study customers are analyzed in semi-structured in-depth interviews around their decision to rethink their churn decision and additionally stimulated with experimental marketing campaign designs on their retention decision. The stimuli are derived from priorly identified influencing variables from the conceptual model and

set in comparison to one another. If the theoretical saturation should not be reached at the number of 25 participants, the sample size is subject to be increased.

The results of the research are expected to deliver valuable insights for marketing science as well as marketing managers from both digital and traditional subscription industries. A limitation of the study is the qualitative approach for measuring customer retention efficiency. Thus, further research is proposed to make use of quantitative methods, such as, regression analyses or structural equation modelling to compare the efficiency of independent variables.

Keywords: Customer Retention, Customer Loyalty, Customer Recovery, Churn, Service Management, Subscription, Subscription-Based Services, Contractual Setting, Marketing Efficiency

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A NEW (Q, R) MODEL INVOLVING RFID IN THE CASE OF FOOD RETAIL INVENTORY MANAGEMENT

Tütüncü, G. Yazgı^{1,2}; Lavediaux, Martin¹

¹Operations Management Department, IESEG School of Management, Lille, France

²Department of Mathematics, İzmir University of Economics, İzmir, Turkey

ABSTRACT

Inventory management is a key point in a store's operations and business performance. However, inventory management is significantly impacted by inventory misplacement. Today, these errors are unavoidable and are the result of manual operational mistakes. At the heart of the food retail industry, supermarkets are playing a central role and the entire stocking and shelving process is done by employees and there is almost no automation. As a result, the food retail sector is prone to manual operational mistakes that lead to inventory misplacement. Within supermarkets, these products are part of the shrinkage. (Food Industry Association, 2021). This shrinkage can be divided into two categories, known shrinkage and unknown shrinkage. According to B. Bathelot (2020), "in the retail industry, known shrinkage is unsold merchandise that is no longer in stock for identified reasons and accounted for in the shrinkage book. This can be, for example, breakage during handling, which is reported to the manager", but also outdated or damaged products. On average, known shrinkage represents 1 to 2 percent of a supermarket's turnover (Phenix, 2021). On the other hand, unknown shrinkage has a more or less known impact on the value of inventory. Unknown shrinkage is mainly noticed during inventory operations. On average, in supermarkets, unknown shrinkage represents 1.12% of the turnover (Tandem, 2020). The gross margin of a supermarket is between 25 and 30% for it to be profitable. Deducting all the costs due to the management of the store, they get a net margin around 2% (Cassel, De Macedo and Plichon, 2019). With high flows, there is a lot of shrinkage, more precisely unknown shrinkage.

Therefore, to reduce shrinkage and manage inventory as best as possible, the vast majority of stores use computer-aided ordering (CAO) systems to replenish their products (Broekmeulen & Van Donselaar, 2009). Nevertheless, these programs do not take the unknown shrinkage into account and do not take into account the known shrinkage in real time. Therefore, by using RFID, the supermarkets could relocate all their products in real time at any time. Accordingly, the objective of our study is to provide a clear answer regarding inventory cost management and whether the RFID model is a solution in terms of inventory management. Indeed, the RFID technology has already convinced of its usefulness in several fields, but no study proves that this solution is better, and that it reduces inventory costs for food retailers with considering environmental and social issues.

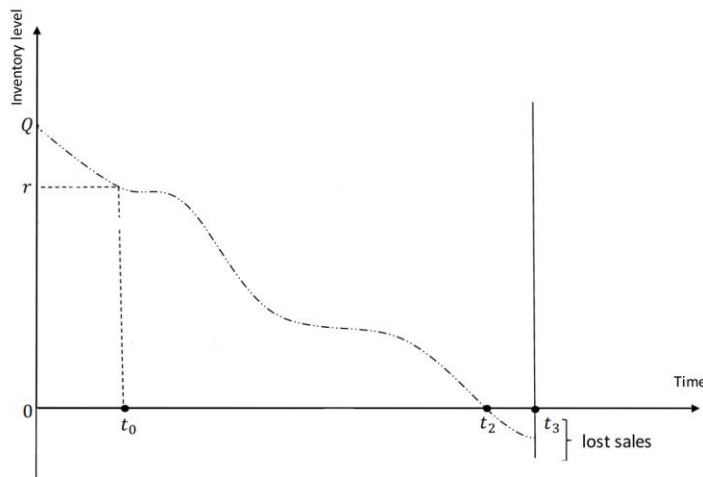


Figure 1: Inventory profile in the case of lost-sales

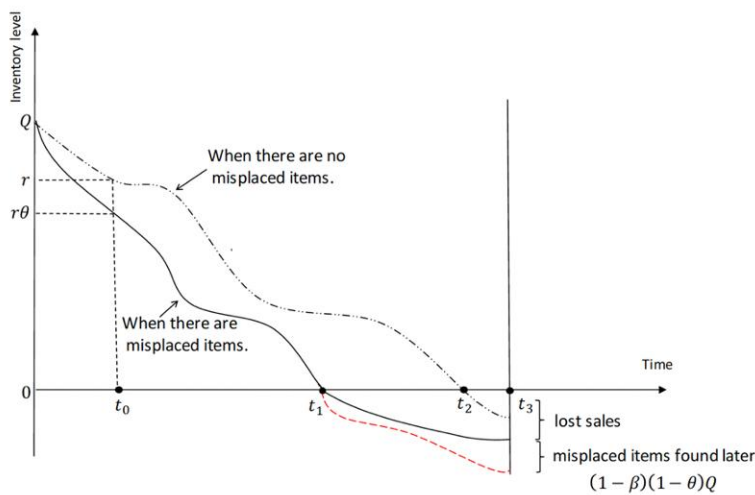


Figure 2: Inventory profile in the case of lost-sales and misplaced items

Although the benefits of RFID technology seem realistic, the accompanying expenses, like the initial costs of implementing RFID and the cost of tags, which is variable, are far from negligible (Gaukler et al., 2007). When RFID technology is used, it is therefore realistic not to take into account the misplaced items normally present in real life. In addition, RFID highlights other social responsibility issues such as recycling and employment. Indeed, the recycling of RFID tags poses problems for two reasons. Firstly, tags are composed of a large number of different metals, so it is complicated to dissociate them to recycle them. Second, these tags are small and often hidden, so it is very difficult to collect the tags (Environnement Magazine, 2015). In this study, to answer our research question, we consider that we need to examine the three models outlined. First, the common (Q, r) model (Figure 1.) involving lost sales, but not misplaced items, is introduced in order to develop our base model. Then, the (Q, r) model, proposed by (Tütüncü et. al.2021), involving lost sales and

misplaced items given because it represents real life situations (Figure 2). Next, we develop a new model by adding RFID cost to the latter, which will also represent real life case for elimination of the shrinkage with the use of RFID. Furthermore, we develop an algorithm to solve the models and determine the total annual inventory costs for those models. First, we compare the two models for a particular store, and then we perform a sensitivity analysis to see in which cases RFID would be beneficial in terms of total annual inventory costs. Our study shows that the total annual inventory costs obtained using our model involving RFID tags are not lower than the model considering misplaced items in most cases. Indeed, stores should not use RFID tags unless they have a very high percentage of misplaced items and a very low percentage of products available for sale in order to reduce the total annual inventory cost. Furthermore, as far as employment is concerned, the use of RFID tags could allow the automation of processes in supermarkets, today carried out by humans, and thus eliminate many jobs (L'Humanité, 2008).

Keywords: inventory management, food retail, radio frequency identification (RFID), shrinkage.

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MEASURING SHORT FOOD SUPPLY CHAIN RESILIENCE IN INNER AREAS DURING COVID-19 PANDEMIC

Nazzaro, Concetta; Uliano, Anna; Stanco, Marcello; Marotta, Giuseppe

Dept. of Law, Economics, Management and Quantitative Methods, DEMM, Benevento, Italy

ABSTRACT

COVID-19 had an impact on the lives of billions of people, not only with regard to individuals' health, but also concerning the economic, social and financial behavioral systems. In fact, the health emergency highlighted not only the limitations of our health systems but also the fragility of our food systems, emphasizing how these can be easily interrupted (Alaimo *et al.*, 2021; Béné, 2020). In this global crisis context, the planetary trade and logistics management of food products, which in the last decades led to important changes in the consumers' eating habits, have been adversely affected by international restrictions (Cappelli and Cini, 2020). As for the local food market, after a period of partial/total closing, the pandemic highlighted consumers' willingness to buy local, through short food supply chains (SFSC), such as direct-to-consumer sales, e-commerce and home delivery (Alaimo *et al.*, 2021), contributing to increase the interest that, since the last decade, they showed towards local foods (Thilmany *et al.*, 2021). In fact, the modern responsible citizen-consumer shows new purchasing behaviors that cover different variables related to the ethical and social attributes of food products, such as production techniques, product origin, positive externalities deriving from the production and social issues (Marotta and Nazzaro, 2020). Through the promotion of new model of multifunctional farm, all these aspects can be promoted and valued, in particular with the valorization of the SFSC, which also represents a competitive lever as a response to the asymmetric contractual power that affects the food supply chain (Stanco *et al.*, 2019). Through SFSC, citizen-consumer can be considered as a co-decision maker of business choices (Thilmany *et al.*, 2021; Migliore *et al.*, 2019), since he is closer to the farm and the territory, contributing to create welfare and shared value (Marotta and Nazzaro, 2020). The health emergency, therefore, underlined the resilient character of the SFSC, as citizen-consumers continued to buy through such sales channels, and farms developed some innovations and rapid strategic responses (Thilmany *et al.*, 2021; Béné, 2020).

In particular, in a vulnerable context such as that of the inner areas, SFSC may represent, for farms, a significant competitive tool, to implement or to improve, in order to increase their resilience and, thereby, their capability to respond to an unexpected event. Therefore, this study focuses on the phenomenon linked to the SFSC for farms in inner areas of Campania, and specifically aims to measure their degree of resilience in the context of COVID-19 pandemic. In order to achieve study's aims, a questionnaire was administered, through direct interviews, to a sample of farms in inner areas, in

Campania region. Resilience assessment was implemented according to Vargas and González (2016), considering three attributes of organizational resilience, such as effectiveness, flexibility and responsiveness. Such attributes allowed to calculate a resilience score, ranging from 1 to 5, which was used to run an econometric model in order to identify variables affecting farms' resilience, including structural characteristics of the farms interviewed and farmer's information. Results highlight an increase, during the pandemic, of citizen-consumer demand for SFSC channels. Consequently, farms in inner areas implemented a process of development and improvement of such channels, changing their investment priorities during the pandemic, showing a strong flexibility and adaptive capability. In particular, through the introduction of new SFSC channels, such as home delivery and e-commerce, farms under analysis have been able to overcome the difficulties linked to the pandemic, expanding their range of sales services, while responding to the new needs of citizen-consumers. This choice allowed such farms to increase their degree of resilience and development. This study contributes to literature on resilience and SFSC as despite different studies analyzes the impact of COVID-19 on food supply chains and food supply chains' resilience, none focuses on the role that SFSC may have, in terms of resilience, on vulnerable territories. The results could be useful for policy makers to design targeted policies in order to manage increasingly unexpected changes in different scenarios.

Keyword: short food supply chain, covid-19, resilience, inner areas, value creation.

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GROWING INFLUENCER CREDIBILITY TO DRIVE ENDORSEMENT EFFECTIVENESS: A LITERATURE REVIEW

Nguyen, Chuong H. B.; Mero, Joel; Karjaluoto, Heikki

School of Business and Economics at the University of Jyväskylä, Jyväskylä, Finland

ABSTRACT

STUDY OBJECTIVE AND BACKGROUND

In contrast to the growth of influencer marketing during the pandemic (Ward, 2021), trust has declined globally, especially for social media (Edelman Trust Barometer, 2021). This has great implications for influencer marketing as social media is the key communication channel of most influencers. While audiences come to influencers for genuine content, brand sponsorship can generate distrust when they realize its covert marketing tactics and commercial orientation (Esteban-Santos et al., 2018; Martínez-López et al., 2020). Thus, enhancing consumers' trust towards influencers is one of the key factors for successful digital relationships among consumers, influencers, and brands.

Scholarly research on influencer marketing, specifically on credibility has started to flourish from 2016 onwards. Credibility in influencer marketing research is often based on previous celebrity endorsement literature (Martínez-López et al., 2020) which might overlook the unique characteristics of social media influencers and the digital environment. Therefore, a consolidated review is necessary to integrate and synthesize the current state of knowledge to provide the basis for and to encourage further research. This review serves this purpose by developing a conceptual framework that integrates the antecedents and outcomes of influencer credibility in the digital context. Moreover, it aims to uncover gaps in literature and guide future research directions.

METHODOLOGY AND RESULTS

We used the Scopus scientific database to search for published research papers with the terms describing influencers (e.g., bloggers, vloggers, opinion leaders, micro-celebrities, live-streamers) and credibility (e.g., trust, benevolence) in the title, abstract and keywords. Then, the authors selected peer-reviewed articles which were published in the scholarly journals listed in the Academic Journal Guide 2018 by the Chartered Association of Business Schools to ensure the quality. We focused on the credibility of social media influencers and excluded articles exclusively about traditional celebrities or

eWOM. From 2016 to 2020, there were 39 articles including 34 quantitative studies (87%) and five qualitative studies (13%).

The Source Credibility Model (Hovland and Weiss, 1951; Ohanian 1990) was found to establish a key theoretical foundation for the influencer credibility construct in the majority of studies. The results revealed that influencer credibility is driven by three groups of antecedents. First, strengthening influencer credibility can be achieved through influencers' positive self-presentation, interaction and relationship with their audiences (e.g., Argyris et al., 2020; Jun and Yi, 2020; Reinikainen et al., 2020). Second, a sponsorship disclosure with additional justification seems to be a better option to maintain influencer credibility given the negative effect resulting from ad recognition (e.g., Hwang and Jeong, 2016). Finally, the perceived fit of influencers with brands, content or audiences serves as a heuristic cue for consumers to trust the endorsement (e.g., Breves et al., 2019). Nevertheless, its impact declines when consumers get to know more about the influencers. In terms of outcomes, the findings show that influencer credibility is a predictor for favorable attitudinal and behavioral outcomes (e.g., Munnukka et al., 2019; Pick, 2020). Influencer credibility also fosters content credibility and brand trust (Martínez-López et al., 2020; Reinikainen et al., 2020).

DISCUSSION

This study makes two contributions to the influencer marketing literature. First, it provides a conceptual framework integrating the antecedents and outcomes of influencer credibility. The framework takes into account distinctive characteristics of influencers in the social media context. Second, it suggests five main questions for future research on the topic: (1) How do influencers and consumers' characteristics, interaction, and relationship affect influencer trust formation? (2) What types of sponsorship disclosure serve their purpose ethically and transparently without compromising influencer credibility? (3) To what extent does influencer credibility depend on perceived fit, and what are the potential moderators? (4) How does influencer credibility drive desirable engagement behaviors (e.g., sharing, liking, commenting)? (5) How is influencer credibility transferred to content credibility and brand trust, and is there a similar reverse impact from content credibility and brand trust to influencer credibility?

The findings also support managers and influencers in conducting influencer marketing effectively, transparently and ethically through cultivating trusted relationships.

The limitation of this study is that it has not yet explored the levels of contribution of different antecedents towards influencer credibility. Furthermore, a standardized way to measure them is still missing. More research is needed to confirm and enrich our findings.

Keywords: Source credibility, Trust, Social media influencers, Influencer marketing

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BETWEEN SCYLLA AND CHARYBDIS? COVID-INDUCED ECONOMIC PRESSURES THREATENING THE MEDIA IN PORTUGAL

Novais, Rui Alexandre

Faculty of Philosophy and Social Sciences, Centre for Philosophical and Humanistic Studies, Universidade Católica Portuguesa, Braga, Portugal

ABSTRACT

The European Commission Vice-President conveyed a worrying diagnosis of the news media in her 2021 speech at the Media4Europe Summit. According to Věra Jourová, the pandemic further exacerbated the economic crisis of the press sector that had started well before (EuropeMediaLab, 2021). Adding to the considerable income losses in recent decades, the plunging of the advertising revenues of the COVID-19 pandemic worsened the already grim financial situation experienced by the generality of the media sector (Olsen et al., 2020) and threatened to become an ‘extinction event’ (Ahmed, 2020) particularly to the printed press. As a result of the extraordinary scenario, some countries, like Portugal, introduced a temporary aid measure to cushion the economic impact of the pandemic and support professional news journalism in the public interest. Such government intervention in the form of financial support raised some doubts about their effectiveness and state dependency of the press in the long run, and it unveiled the prevailing split in terms of the economic orientation philosophy of the press firms in facing the media industry problems (Holtz-Bacha, 2021, p.44; Murschetz, 2020).

Against this backdrop, this study aims to reveal how the media managers in the Portugal dealt with the problematic decision to whether accept some of the exceptional aid to cope with COVID-induced economic pressures or struggle to survive without some form of public support.

The impact of the COVID in the Portuguese media

At present, there is still limited knowledge of the specific dangers faced by journalists during the COVID-19 in Portugal. What is known is that the decrease in global revenues from sales of print copies and advertising (ERC, 2020) following the general lockdown in the country from 18 March until 2 May, urged media titles to ask journalists to either accept temporary unemployment or to work from home (Fidalgo, 2021, p.299) something which but accelerated ‘the use of temporary contracts, dismissals or lay-offs’ and worsened the short and medium-term professional expectations (Camponez et al., 2021; Garcia et al., 2021; Miranda et al., 2021). Hence, the COVID-induced constraints sharpened the already critical scenario of the generality of the Portuguese media groups grappling with serious financial problems before the pandemic. By then, the economic pressures already comprised “huge debts, declining print sales and shrinking audiences” (Carvalho, 2020) sided with commercialization and

maximization of the profit in a market with profitability and liquidity constraints that had implications in terms of downsizing of the newsrooms and journalists becoming redundant or abandoning the profession (Fidalgo, 2021, p.341; Lopes, 2016).

Adding to the extant anecdotal evidence on the economic sustainability (ERC, 2020; Fidalgo, 2021) and the working conditions (Camponez et al., 2021; Garcia et al., 2021; Miranda et al., 2021) of the Portuguese media companies, a recent academic study attempted to put the economic dimension into perspective through documenting the threats that journalists in the country were likely to experience to their professional freedom and personal safety (Novais, 2022). While analysing press incidents that took place between the first case of COVID-19, in March 2020, and the end of 2021, the study displayed that half of those threats were economic-related, prevailing over information access, physical and verbal attacks, as well as smear campaigns and online harassment (Novais, 2022, p.8). More concretely, the catalogue of economic threats in the examined sample of 34 reports in the public domain from both national and international monitoring bodies - the Portuguese journalistic trade union (Sindicato dos Jornalistas – SJ), the IPI COVID-19 Press Freedom Tracker (International Press Institute), the Tracker 19 (Reporters Without Borders), and the Corona Watch (Media Freedom Rapid Response) – was quite broad ranging from the repeated requests for emergency financial aid by the trade union to “avoid the collapse of the media sector” along with frequent criticisms aimed at the governmental authorities (SJ, 2020a) up to the denouncements of the unlawful furloughs and dismissals within some media groups (Novais, 2022, pp. 8-10).

In response to the economic impact of the pandemic, the Portuguese governmental authorities came up with just one specific measure for the media sector. True that the government also extended the IVAucher initiative to the press sector to stimulate media products consumption - allowing to accumulate the value added tax (VAT) on transactions to be subsequently converted it into discounts on subsequent purchases in the same sector – which was virtually useless for not including the street corners where newspapers and magazines were usually sold in Portugal (SJ 2020b). But it was not until April 2020 that the Portuguese Minister of Culture, Graça Fonseca, announced the one-off media-specific emergency aid in the form of €15 million of advertising campaigns paid in advance (Vitória and Coutinho, 2020). If such an announcement proved insufficient to assure the ‘sustainability of the media’ and the survival of a ‘free, independent and plural journalism’ in the country (SJ 2020c), matters would get even worse six months later, given that logistical bureaucracies prevented the media outlets to receive their share of the €15 million package. Accordingly, the union blamed both the Portuguese government and Parliament for their “unwillingness to act” and to “strengthen journalism” and ‘ignoring the difficulties of the media sector’, reminding them that a “weaken[ed] press is not to the advantage of the journalists, journalism, and society” (SJ 2021). In clear contrast, acknowledging the

critical function to inform on the pandemic and public health measures to be adopted by the population the regional government of the Azores Islands opted for supporting the minimum wage of the journalists belonging to the private media in the archipelago (SJ 2020b).

A dilemmatic choice between the risk of being captured versus nailing your own coffin

The one-off Covid-19 state support providing short-term relief to struggling news media in Portugal also proved to be a divisive matter for illustrating the lingering ideological cutline of the relationship between news media and governments in democratic contexts. The decision-makers had to choose between ‘the rock’ of accepting the state aid to compensate for their losses and the ‘hard place’ of increasing the dependency on the state. Whereas most of the media groups in Portugal, such as Impresa, Media Capital, Cofina, Rádio Renascença, Trust in News, Sociedade Vicra Desportiva, Newsplex, accepted it, the proprietors of two news titles - *Observador* and *ECO* – refused it.

In the case of the former, the direct support by the state was an effective intervention in favor of the public interest through engendering economic opportunity and supporting news media platforms and publishers in troubled times without jeopardizing the journalistic independence and freedom. In short, it was considered normal procedure in extraordinary times of “economic pressures” stalking the newsroom (White, 2015). Indeed, paid adds were already a salient feature of the intervention by the state in the domain of mass media in the country on a regular basis, as a recognition of “product and cost characteristics” as well as the “merit” of media goods, without fearing the potential dangers involved (Holtz-Bacha, 2021; Murschetz, 2020). In addition, given that most of them had printed press titles the refusal to accept the emergency aid would mean another ‘nail in the coffin’ (Newman et al., 2021:13) and confirm the market failure paradigm of their commercial paradigm typically dependent upon revenues from audiences and advertisers (Gabszewicz et al., 2015).

It was quite the opposite in the case of the latter. Besides being digital-based and not so dependent on sales of printed copies, the two press titles ultimately refused the state emergency aid package in pursuit of “total independence from political power’ (AC, 2020; Fidalgo, 2021:300). The “lack of transparency” in the criteria of the fund’s allocation was the crux of the matter for the *Observador*, while the *ECO* rejected the “direct subsidy model”. They avoided the possibility of a sort of “media capture” (Murschetz, 2020; Nielsen, 2017; Stiglitz, 2017) by considering such state subsidy as a subtle instrument with the potential to subvert their freedom and unduly distort their reportage. Beyond the prospect of endangering journalistic freedom and expression, their determination also was based upon the conviction that the dependency on government subsidies of the kind does not foster long-term sustainability or the capacity to adapt to the ever-evolving news ecosystem.

Keywords: Risks for journalism; economic threats; COVID19; Portuguese press; state funding; press independence; managers’/dilemmatic decision-making

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VALUE CREATION AT THE INTERSECTION OF DIGITAL TRANSFORMATION TECHNOLOGIES AND SUSTAINABILITY IN EXTENDED GLOBAL NETWORKS

Osarenkhoe, Aihie; Fjellström, Daniella

University of Gävle, Department of Business & Economic Studies, Gävle, Sweden

ABSTRACT

The exploratory nature of this study is guided by the following **research question**: How is value created and captured at the intersection of digital transformation technologies and sustainable business strategy when/if embedded in decision-making support tools to optimise availability of unified data across global value networks? **The objective** is to: investigate if success in uncertain times is increasingly dependent on a company's ability to implement a "twin transformation" - to find new values at the intersection of digital technology and sustainability that will in variably strengthen competitiveness. **The theoretical lens** draws on, among others, resource-based view (RBV) which views the firm as a unique bundle of assets and resources that, if utilised in distinctive ways, can create competitive advantage. However, since the attributes of RBV are at parity with *Dynamic capability* (DC) perspective that depicts the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments, DC is relevant here as well. **A qualitative approach** is used to collect empirical data from our portfolio of industrial partners in 11 Multinational Enterprises (MNEs), 15 Small and Medium Sized Enterprises (SMEs) four cluster organisations that have over 300 companies that are members in the cluster organisations. They were be invited to knowledge exchange workshops and seminars, focused group interviews focusing on themes generated from the research questions presented above. **Research findings**: Majority of the companies are aware that new value is increasingly being found at the intersection of digital technologies and sustainability. The companies leveraging it - we call them Twin Transformers - are 2.5x more likely to be among tomorrow's strongest-performing businesses than others. Swedish companies' early lead in sustainability should make them a natural to be Twin Transformers, yet few are pursuing this path. Thus, what needs to be done for more companies to act on this opportunity and abandon their myopic perspective and embrace the full potential of twin transformation and its fundamental activities. **Concluding remarks and implications** are that we seek to build the conceptual basis for the academic discussion on the implications of the interplay between digital transformation and sustainability – a perspective still in embryonic stage in extant literature. **Originality and major contribution** of this study is, therefore, to unveil the need to consider the combination of sustainability and digital technologies as key to ignite future competitiveness for

Multinational Enterprises and Small and Medium- Sized Enterprises. This viewpoint is currently missing in extant literature.

Keywords: Digital transformation; Twin Transformers; Sustainability; Twin transformation; Digitalisation.

FAMILY FIRMS INNOVATION AND OWNERSHIP STRUCTURE: EVIDENCE FROM IPOS

Ossorio, Mario

Department of Economics, University of Campania "Luigi Vanvitelli", Italy

ABSTRACT

LITERATURE GAP AND PURPOSE OF THE PAPER

Although over the past decade a relevant stream of literature has focused on family firms' innovation behaviour (Muñoz-Bullón & Sanchez-Bueno, 2011; Chrisman & Patel, 2012; De Massis, Frattini, Kotlar, Messeni-Petruzzelli, & Wright, 2016; Miroshnychenko, Barontini & De Massis, 2019), the debate on family-specific antecedents that influence innovation input, processes and output is still open (Carnes & Ireland, 2013; Calabrò et al., 2019). Previous studies have mainly been conducted on private or listed family firms, without exploring family firms' innovation behaviour in the setting of an initial public offering (IPO). The aim of this study is twofold. The first scope is to explore R&D investments after family firms go public. The second scope of this study is to investigate whether generational stage is able to affect the relationship between the fraction of post-IPO shares retained by family owners (henceforth, ownership retention) and post-IPO R&D investments.

METHODOLOGY

The sample was constituted by 132 non financial firms that went public in France and Italy in the period 2013-2018. I tested the relationship between family ownership retention, generational stage and post-IPO R&D by using an ordinary least square (OLS) regression model.

RESULTS

The first result shows a positive relationship between ownership retention and R&D investments, suggesting that as the family's stake in the business after going public increases, their willingness to innovate increases, too. Although this finding is consistent with stewardship predictions emphasising the relevance of longevity (Miller & Le Breton-Miller, 2005), it also demonstrates that family firms benefit of several advantages connected to IPO. Indeed, the infusion of public equity not only permits to remove family firms' financial obstacles to innovation; it reduces information asymmetry between managers, family and nonfamily shareholders (Acharya & Xu, 2017) and enables family owners to

diversify their portfolios (Wright et al., 2002; Chang et al., 2010). All these effects would support family firms' managers to adopt innovation investments.

Second, I have found that generational stage negatively affects the relationship between ownership retention and post-IPO R&D investments. Indeed, as generational stage increases, on the one hand, each family member possesses a lower fraction of family shareholding and, on the other hand, divergent views among family members begin to surface (Schulze et al., 2003). The sale of the family firm's stocks by investors and dissatisfied family shareholders may stimulate an external non-family investor to take over the business or become a large shareholder (Stein, 1988; 1989). Therefore, family shareholders may lose control of the firm, potentially with emotionally devastating consequences.

ORIGINALITY OF PAPER

Whereas previous studies have investigated the effects of family firms' IPOs on financial (Jain & Shao, 2014; Lien & Li, 2014; Kotlar et al., 2018), accounting (Ferreira, 2008; Cirillo et al. 2015; Nikolov & Wen, 2018) and mixed measures (Jain & Shao, 2015), this study extends the family business literature by exploring the effects of IPOs on family firms' investment policies. In fact, while financial literature has investigated the effect of going public on the financing of investments in great depth (Pagano et al., 1998; French et al., 2021) and more generally on how the money raised in the offering is used by firms after going public (Kim & Weisbach, 2008), relatively little attention has been paid to this issue by family business scholars, despite the relevance of the link between equity markets and firms' real decisions. This study has aimed to fill this gap, by analysing family owners' R&D investments in the setting of an IPO, where family firms are able to remove certain factors hindering their willingness to innovate.

CONTRIBUTIONS

With supportive empirical findings, this paper enriches the debate on family firms' innovation in three ways. First, analysing family firms' R&D investments after going public enables a deeper understanding of the motivations behind family firms' behaviours to innovate, focusing on actual family propensity to adopt innovation policies. Second, over the past years a strand of literature has focused on family firms' IPOs, primarily concentrating on their effect on family firms' financial and accounting performance (Cirillo et al., 2017; Kotlar et al., 2018; Nikolov and Wen, 2018). By contrast, scant attention has been paid to non-financial performance post-IPO, such as with regard to R&D investments. This study fills this gap and enriches the family business literature by taking into account the effect of family IPOs on innovation behaviours and thereby helping to disentangle contradictory

results concerning family firms' propensity to innovate (Chen and Hsu, 2009; Chrisman and Patel, 2012; Block et al., 2013).

Keywords: R&D; Innovation; Family firms; IPO; Generational stage

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AI AND BLOCKCHAIN FOR INTER-ORGANIZATIONAL ALGORITHMIC MANAGEMENT

Pareschi, Remo

University of Molise and BB-Smile¹

ABSTRACT

Two technologies will be the protagonist of the third decade of the 21st century. Artificial Intelligence (AI) will contribute about \$ 15.7 trillion to the global economy by 2030, more than the current output of China and India combined. Blockchain technology will contribute a relatively minor number of \$ 1.77 trillion. On top of that, integrating the two technologies can produce even higher numbers by creating high-performance organizations that use the blockchain as a secure infrastructure to deploy AI-based automation of their activities. Consortium organizations, of which supply chains are a primary instance, are the perfect candidates to harness this potential: on the one hand, they lack a dedicated human workforce and thus are unaffected by economic and ethical issues regarding AI replacing human workers; on the other hand, they would greatly benefit from AI-based and blockchain-deployed automation and coordination. The talk illustrates the framework ProfitableChain to support this deployment and its application through a case study on agri-food.

¹ Joint spin-off of University of Rome La Sapienza and University of Molise

AN EXPLORATORY STUDY ABOUT CONSUMER'S ATTITUDES TOWARD STEP-DOWN LINE EXTENSIONS IN THE AUTOMOTIVE SECTOR

Pedrosa, Gabriel¹; Nobre, Helena²; Sousa, Ana³

¹GOVCOPP, University of Aveiro, Aveiro, Portugal

²Economics, Management, Industrial Engineering and Tourism Dpt., GOVCOPP, University of Aveiro, Portugal

³COMEGL, University Lusíada, Porto, GOVCOPP, University of Aveiro, Portugal

ABSTRACT

The automotive sector is one of the most competitive and complex markets globally. Like many others, this industry is subject to constant change and dynamics with increasingly demanding environmental laws and new players in the market, such as China (Mohr et al., 2013). The automotive original equipment manufacturers (OEMs) are large multinational corporations with links to a massive net of dedicated suppliers and sub-suppliers devoted to providing automotive products for consumers, sales and after-sales activities and services. Increased sales of premium brands can be related, among other factors, to efforts made by OEMs to reach more consumers by going downscale on the automotive market segments, using brand line extensions (Tournois & Chanaron, 2018), reducing the differences between mass-market and premium brands (Kumar, Paul, & Unnithan, 2020). This market has been stable in part thanks to the use of brand line extensions (Demandt, 2019; MarketWatch, 2019). However, such downwards extensions are usually associated with lower quality and lower prices, which may cause a negative impact on the consumers' evaluation, especially in premium brands (Magnoni & Roux, 2012; Zoellner & Schaefer, 2015).

Through an experimental approach, this study aimed to understand how consumers evaluate a downward brand line extension in the European premium automotive market, addressing perceived value, consumer extension attitude, perceived fit, innovativeness and need for status: (i) perceived value is defined by four distinct value dimensions namely emotional, social, quality/performance and price/value for money (Sweeney & Soutar, 2001); (ii) brand extension attitude is essentially dependent on how the consumer evaluates it based on the antecedents and the information available (Heath, DelVecchio, & McCarthy, 2011), (iii) perceived fit is described as the evaluation made by the consumer on how close or distant this relation is based in several dimensions and items, such as product-feature similarity or brand-concept similarity (Park, Milberg, & Lawson, 1991); (iv) innovativeness when a product is identified as new or unusual for a certain brand and is perceived as innovative, generating interest in innovative consumers that are more willing to purchase new brands or products (Bartels & Reinders, 2011), and (iv) need for status associated to the consumer's status-seeking behaviour (Grewal, Mehta, & Kardes, 2004).

Data was collected through an online questionnaire considering a pool of questions on car ownership, innovativeness, need for status, and BMW brand attitude. Results indicated that purchase intention of downward premium OEM brand line extensions is influenced indirectly, through extension perceived value, consumer extension attitude and extension perceived fit with the parent brand. No moderator effect was proven for consumer innovativeness, but findings suggest a moderator effect of the need for status.

As part of one of the most competitive and sophisticated markets, the premium automotive manufacturers are increasingly pressured to implement brand line extensions into smaller size car segments, especially in the European markets, blurring differences between the value brands and the premium brands. By understanding the variables in this context, brand managers can better build and maintain their portfolio.

Keywords: Automobile industry; Downward brand extension attitude; Perceived value; Perceived fit; Innovativeness; Need for status.

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PROMOTING SUSTAINABLE CONSUMPTION: FILLING THE GAP BETWEEN RETAILERS AND END CONSUMERS' PERCEPTION OF CIRCULAR PRODUCTS

Perotti, Francesco Antonio^{1,2}; Bresciani, Stefano¹; Ballerini, Jacopo^{1,3}

¹Department of Management, University of Turin, Turin, Italy

²Department of Management, University of Agder, Kristiansand, Norway

³Department of Marketing, Vrije Universiteit, Amsterdam, Netherlands

ABSTRACT

POSITIONING, GAP AND PURPOSE

In response to the rising demand for circularity by supranational and not-for-profit organisations (Circle Economy, 2021; European Commission, 2020), as well as society's renewed interest in sustainable products and services (Hartmann and Siegrist, 2017; Tunn et al., 2019), researchers' and practitioners' effort in unpacking new business models based on circular purposes is increasing exponentially (Bai et al., 2022; Lieder and Rashid, 2016; Morea et al., 2021). However, while most studies revolve around how companies are translating their practices and processes to embrace the circular economy (CE), little is known about downstream stakeholders' attitudes toward circular products and services (Hazen et al., 2017; Mostaghel and Chirumalla, 2021). Previous studies have shown how sustainable consumption supports and strengthens circular businesses in addressing environmental and social challenges (Tunn et al., 2019). From this point of view, companies can leverage ethical purchase behaviours and foster sustainability by dealing with the perception of downstream stakeholders regarding circular products and services (Mostaghel and Chirumalla, 2021; Ranta et al., 2020). Yet, due to their different perceptions and technical awareness, end consumers and B2B customers revealed peculiar approaches to circular outcomes (Casidy and Yan, 2022; Hartmann and Siegrist, 2017; Ranta et al., 2020). This issue has not been properly addressed so far, although it can address company policies aimed at promoting sustainable consumption (Mostaghel and Chirumalla, 2021). Therefore, through the lens of the social cognitive theory (Bandura, 2001), the main purpose of this research is to emphasize the contrasting end consumers and retailers' attitude toward circular products and services, to outline two more suitable inter-relational approaches which optimize stakeholders' perception of circular products and, as a result, sustainable consumption.

RESEARCH DESIGN AND METHODOLOGY

The study follows a quantitative methodology through a survey approach to collect data about customers' (both B2B and B2C) perceptions towards CE processed products. It implies a multigroup analysis through PLS-SEM, which is considered an efficient way to statistically test differences in perceptions across different stakeholders (Chi et al., 2022). The dataset will be composed of two subsets of interviewees. The first one, representing the B2B stakeholders, will involve buyers and category managers working for distributors and retailers of the selected product categories, while the second subset will be formed by final consumers. As for the analysed verticals, we decided to consider cosmetics and food & beverage, which are considered sectors profoundly linked to CE issues and practices (Lieder and Rashid, 2016; Morea et al., 2021).

EXPECTED FINDINGS

Once the responses (about 400 end consumer responses and B2B customers) have been collected and the multigroup analysis conducted, we would be able to outline a detailed picture of their perception regarding circular products or services. Supported by previous studies, we assume a different level of technical awareness of product processing between end consumers and buyers (Hartmann and Siegrist, 2017), so that the degree of information asymmetry could lead to discrepancies in product perception. Hence, the trust dynamics between B2B and B2C customers also follow different logic (Casidy and Yan, 2022). According to Sirieix et al. (2013) and Aprile and Punzo (2022), consumers tend to manifest more sceptic behaviour toward "climate-friendly" claims concerning other kinds of product labelling. On the contrary, thanks to the direct commitment of managers from the supply side, buyers and category managers often welcome vendors' green supply chain practices (Hoejmose et al., 2012). Therefore, we can reasonably expect B2B stakeholders could express a higher degree of positive perception with respect to end consumers.

IMPLICATIONS FOR ACADEMIC AND PRACTITIONERS

Building on our findings, it is our intention to further the sustainable consumption knowledge by highlighting the conflicting stakeholder's perception of products resulting from CE practices (Bandura, 2001; Tunn et al., 2019; Hartmann and Siegrist, 2017). Our theoretical contribution will delve into this comparison to advance two tailor-made communicational perspectives with respect to downstream stakeholders. As managerial implication, we outline some best practices and guidelines to increase the added value associated to circular products by leveraging sustainable consumption. Finally, while

offering some insights for businesses, we expect to promote ethical purchase behaviours supporting the circular transition.

Keywords: Sustainable Consumption, Circular Economy, B2B Customer Perception, End consumers Perception

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INVESTIGATING ECOSUSTAINABLE MARKET STRATEGIES IN THE SPORTING INDUSTRY: THE ITALIAN CASE OF 'ZONE EXPERIENCE

Portaluri, Giorgio; Vicentini, Francesca; Mura, Rita

Department of Movement, Human and Health Science, University of Rome 'Foro Italico', Rome, Italy

ABSTRACT

Leading scientists and science institutions warn humanity about the necessity to rapidly find environment - friendly solutions to unsustainable anthropogenic processes and dynamics, underlining that humanity already live in the climate crisis (Ripple et al., 2019). As the future ahead of our time is scientifically proved to be environmentally and climatically unstable the broader sporting industry, in consideration also of the environmental footprints of its own institutions, events and operating organizations, is considered a key driver of environmental sustainability (United Nations, 2015). Following this purpose, this researched aims at highlighting how integrating environmental competitive strategies within their individual market orientations sport – related economic organizations might eventually increase their competitiveness. Indeed, efficient strategic management over environmental issues and companies' eco – orientations appear to further businesses competitive advantage, particularly when referring to eco – innovation investments and environmental management systems' implementation. Concerning environmental innovations, Kemp and Pearson wrote that they are “the production, assimilation or exploitation of a product, production process, service or management or business method that is novel to the organization and which results, throughout its life cycle, in a reduction of environmental risk, pollution and other negative impacts of resources use (including energy use) compared to relevant alternatives” (2007). Orsato (2006) managed to draw an environmental strategies matrix in considerations of external structural and internal resources variables. Competitive advantage is meant to be pursued either through differentiation or lower cost strategy, while competitive focus may concentrate either on products/services or on organizational processes. Eco-Efficiency (Strategy 1) appears strictly linked to Quality management and monitoring dynamics. As delineated by Porter and van der Linde (1995), eco-efficiency expects that competitiveness is reached by maximizing resource productivity and minimizing processes inefficiencies; the latter entail also waste and pollution, whose disposal has a cost. In this light, eco – innovations may have the key benefiting potential of reframing entire industrial organizational processes. Beyond Compliance Leadership (Strategy 2) is applicable when businesses opt for differentiation over organizational processes; differentiation arises as businesses can or are willing to pay in order to commit to official 'green' certification like LEED facilities certification or to globally recognized sustainable management reference systems like the ISO series (for example, ISO 20121; ISO

14001) and the Global Reporting Initiative (GRI). In return, not only organizational processes may benefit from more efficient dynamics, but also public opinion and businesses images are supposed to be positively affected and consumers' behaviours might be influenced. When translating 'Beyond compliance leadership' dynamics over products/services competitive focuses, economic organizations and managers face Eco-Branding (Strategy 3). Differentiating products/services in terms of their own degree of environmental awareness is already a widespread marketing practice. Orsato (2006) recognized that eco-branding strategy's applicability needs three pre-requisites: consumers' will to pay a premium price over environmental differentiation, reliable public communication concerning products/services environmental performance and competitors' difficulty in their imitation. Finally, in industries with limited scope of differentiation, companies are meant to compete over products/services cost leadership and environmental performance. Here again, eco – innovation is a fundamental factor, particularly when approaching new materials creation and environmentally dangerous material substitution. Investing in eco-innovation might lead economic organizations to find new prospects ideally able to revolutionize industries even until "shifting from selling products to selling the function provided by them (service)" [reducing] "both economic costs and environmental impacts" (Orsato, 2006 p.137). In order to cope with this study's aim, the authors decided to investigate the customers' satisfaction of a specific case – study, namely the fitness centre 'ZONE Experience' in Pisa, Tuscany. It appears correct to argue that the latter stands as the most evident attempt to integrate eco – sustainable paradigms within a wellness centre in Italy and since the opening September 2016 'ZONE Experience' project endorses the radical idea that strategic investments in eco – sustainability enhance customers' satisfaction as well as medium – long term cost reductions and business differentiation. Indeed, 'ZONE' appears to aim at both organizational processes and services differentiation; thus, in Orsato's framework (2006), it appears clear how ZONE is well founded and implementing combined elements of Beyond Compliance Leadership and Eco – Branding strategies. The research methodology was meant to be oriented towards evaluating 'ZONE Experience' customers' satisfaction concerning 'ZONE' s performance and ecosustainable features as well as their own perception concerning environmental sustainability necessity within sport/fitness contexts; accordingly, qualitative methods were deemed necessary and an *ad hoc*, in depth - questionnaire was constructed. Indeed, it has been argued that the deep understandings of complex phenomena and research issues appear to be better endorsed by qualitative research methods, when it comes to management and sports management studies (Mallen & Dingle, 2017). The questionnaire was printed and presented at the entrance of the centre; unfortunately, only 9 customers completed the questionnaire between the 20th of February and the 10th of March 2020. This limited amount of survey participants was caused by the COVID – 19 breakout and consequent sporting and fitness services'

limited activities. Although quantitative and statistical relevance might be excluded here, the questionnaire's answers still provide a picture of eco – sustainability considerations and status within ZONE dynamics and among its own customers. The survey comprised multiple - choice questions with singular answer, satisfaction evaluating Likert scales and open questions with limited answering space. Four degrees of analysis were considered in the drafting of the survey: a demographic area of questioning, a customer's general satisfaction section, one part investigating the degree of satisfaction towards the facility ecosustainable peculiarities and their interactions with customers daily activities, and, finally, customers were asked whether fitness and sport centres should actively support environment – oriented investments. On the grounds of it appears right to underline that ZONE has reached a real level of general and element – specific customers' satisfaction. Although not in the central elements of customers' perceptions, the eco – project is collectively considered a source of competitive advantage and a well – founded influence over consumers' choice to join ZONE. The competitive advantage seems to be captured not only in terms of expenditures reductions, but also in reputational terms. ZONE is said to redevelop surrounding urban area and incentive customers to physical activity. Focusing on the eco – project and enhancing resources dedicated to it appear desirable by survey participants. Integrated eco – innovations in structural and products/services specifics would further incentives for customers' individual fitness engagement. Innovative eco – incentives (for example, percentage discounts over self – produced energy) might work as leverage to reach new market segments or opportunities, potentially beyond Pisa. This explorative study contributes to the deepening of research concerning how environmental strategies may enhance competitive advantages of private sports organizations, while enhancing the latter's ethical and strategic adaptation to climate changes. Illustrating an Italian practical case – study, this study provides different implications; in line with existing literature (Orsato, 2006), ZONE's "eco – branding" and "beyond compliance leadership" strategies appear to endorse service differentiation and premium price; practical implications underline how ZONE's eco – project is creating positive results and might be a potential model or franchise combining business vision and environmental commitments within sports and fitness industries.

Keywords: Ecosustainability, environmental competitive strategies, sports industry, fitness industry, eco – innovation

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LEAN AND SAFETY MANAGEMENT OF CHRONIC CARE PATHWAYS: FIRST RESULTS FROM A RESEARCH PROJECT IN ITALY

Pozzan, Caterina¹; Tiso Anna¹; Crema, Maria²; Verbano, Chiara¹

¹Department of Management and Engineering, University of Padova, Padova, Italy

²Azienda ULSS N 2 Marca Trevigiana, Treviso, Italy

ABSTRACT

INTRODUCTION AND THEORETICAL BACKGROUND

The healthcare sector faces numerous challenges due to growing financial, political and social issues, and the crisis generated by the COVID19 pandemic. Chronic diseases constitute a global threat that needs to be promptly addressed, representing the leading cause of death globally (WHO, 2020). However, chronic patients frequently are untreated or poorly controlled until acute complications arise (Nolte and McKnee, 2008) due to the lack of a coordinated system, causing gaps in transition across inpatient and outpatient care. The continuity of care and territorial assistance play a fundamental role in guaranteeing the long-term care path for these patients, improving their quality of life, and contributing to the reduction of costs, hospital admissions and emergency room accesses (Hu et al., 2020). New managerial tools are needed to reduce inefficiencies and to provide a time-sustainable response to the continuous increase in the healthcare demand, requested quality, and consequently, expenditure. Lean Healthcare Management (LHM) is a managerial approach rapidly expanding in healthcare and it aims at continuously improving care processes by either increasing customer value or reducing waste (Radnor et al., 2012). The positive results achieved in the performance make LHM the main improvement methodology employed in the healthcare sector (Henrique & Godinho Filho, 2020). However, to adequately answer the growing quality requirements, Clinical Risk Management (CRM) should be considered to improve patient safety and reduce costs caused by the clinical risks in the care process (Vincent et al. 1998). LHM and CRM are usually adopted alternatively or separately to manage wastes or risks. However, an integrated approach would ensure a proactive management of risks and wastes simultaneously, achieving multiple goals (Crema & Verbano, 2016).

Even if the integration among the different actors involved has to be promoted to ensure continuity of care, especially for chronic pathways (Kelendar et al., 2020), the knowledge and applications of LHM and CRM in an integrated way are not yet detectable in the health services provided at territorial level. Indeed, theoretical and empirical evidence is still lacking in the current literature, with just a few exceptions showing a research field in its early stage. Most LHM experiences are still limited to hospital boundaries, focusing on sub-optimal outcomes rather than improving the entire care pathway across

multiple settings of care (Borges et al., 2019; Hallam and Contreras, 2018). Extending the application field towards the territorial care integrated with hospitals could, on one side, improve the quality of care provided by chronic pathways and, on the other, enrich the knowledge about this methodology. Therefore, the development of an integrated and structured approach to guide lean and safety projects could represent a relevant contribution to this field.

PURPOSE AND METHODOLOGY

Due to the over described relevance of chronic care pathways, the research aims to define a managerial methodology that integrates the management of wastes and clinical risks throughout the clinical pathways of patients with chronic diseases. To achieve this objective, an empirical framework will be developed starting from the results obtained by reviewing academic and managerial literature about the implementation of lean and clinical management in territorial care pathways. For each phase of the project, tools, practices and Key Performance Indicators will be indicated to manage wastes and risks in an integrated way. That framework will be revised and verified through interviews, brainstorming, focus groups with experts and with the stakeholders of the process where it will be tested.

This research is included in a project jointly developed by the University of Padova and the ULSS2 Marca Trevigiana. The aim consists in developing a methodology to improve the quality of care (efficiency, safety and effectiveness) and patient satisfaction through proactive and integrated management of risks and wastes, assuring the care continuity for patients with chronic diseases. ULSS 2 Marca Trevigiana is a local social-health organization in Italy, divided into four districts and it assists more than 800.000 citizens. A context analysis has been conducted and the key characteristics have been defined and investigated in order to select the chronic-care pathway to be analyzed. Therefore, the final empirical framework will be discussed and approved with the involved actors in order to be improved and adapted to the specific context.

FINDINGS AND CONTRIBUTION

The empirical framework is expected to provide a step-by-step guide to implement lean and safety projects in chronic pathways, involving multiple care settings. The intrinsic complexity of the context of these projects requires detailed guidelines: therefore, the framework will specify recommendations about each phase, activity, tools and practices to be implemented, with the actors that should be involved and the expected deliverables. Moreover, this framework will be helpful as a tool to foster the integration of the different stakeholders involved, facilitating communication and information exchange processes throughout the project.

There is no evidence regarding the development and implementation of the methodology proposed in this research, which integrates LHM and CRM, creating a new framework to manage risks and wastes simultaneously, optimizing the clinical care pathways of patients with chronic diseases beyond hospital borders. The analysis of the processes of chronic patients, extended to the territory and based on an integrated methodology is an innovative topic with high scientific, managerial and social contribution. From an academic perspective, the current research enriches the knowledge of this integrated approach, extending the field of its application outside the hospital boundaries and providing a framework missing in the literature. It could also represent a managerial support for health providers, to improve the quality of care in chronic pathways through HLM and CRM. Finally, reducing the burden of chronic disease could address social and economic concerns, with benefits for equity, accessibility and costs of health services.

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Keywords: Lean management, healthcare management, risk management, process management, chronic care pathways.

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TRUSTS, TRUSTEES AND FAMILY FIRM GOVERNANCE

Pulcini, Andrea; Montani, Damiano; Gervasio, Daniele

Department of Management, University of Bergamo, Bergamo, Italy

ABSTRACT

In this study, the word “trust” does not refer to the sentiment (to believe or confide in someone), but the legal instrument originated in the UK during the crusades and used today in many countries worldwide. Trust is a legal arrangement created by a settlor, in which a trustee holds property as a fiduciary for one or more beneficiaries. The trustee—a natural or juridical person—takes a legal title to the trust property, allowing the trustee to deal with other third parties like the actual property owner (Sitkoff, 2014). The settlor can transfer any goods in the trust fund, including shares of the company. Thus, if an entrepreneur transfers the shares of the company to a trust, the latter becomes the owner of the company, entering the corporate governance (CG) assuming a vital role: the shareholder. Trust is usually adopted as a CG tool by (small and large) family firms (Fang and Leung, 2020).

A systematic literature review conducted on Scopus and the Web of Science revealed very few publications directly or indirectly dealing with this CG model (Fan and Leung, 2020; Lehman, 1992; Lockhart, 2011; McCollom, 1992; Scholes et al., 2021; Scholes and Wilson, 2014; Yu and Zheng, 2012; Zellweger and Kammerlander, 2015). The use of trusts has remained an unexplored area of family firm governance (Scholes et al., 2015). Therefore, considering that the phenomenon of trusts in the ownership of family businesses is spreading worldwide and that trusts can have a strong governance role (impacting the company’s life and survival significantly), they deserve much more research attention (Scholes and Wilson, 2014; Zellweger and Kammerlander, 2015). Many research gaps, including why entrepreneurs choose to put their companies’ shares in a trust (Corbetta and Quarato, 2022) and a more in-depth analysis of the role and behaviour of trustees in companies’ CG (Scholes and Wilson, 2014), exist and still need to be filled.

Therefore, this study aims to explore the following: the reasons entrepreneurs decide to include trusts in their company’s CG; how the implementation of trusts in the company’s CG is governed; and the power and authority dynamics between the trustee and the entrepreneur in the company’s management.

Considering the study’s objectives, the governmentality framework known as “Analytics of Government” (AoG) (Dean, 2010) could be a good theoretical lens to observe the phenomenon. This framework investigates the specific conditions under which entities emerge, exist, and change. It seeks to identify the emergence of that regime, examine the multiple sources of the elements that constitute it, and follow the diverse processes and relations by which these elements are assembled into

relatively stable forms of organisation and institutional practice (Dean, 2010). There are three dimensions of governmentality analysis. The first is “problematisation,” which is the identification of an issue to be governed. The second element concerns the detailed “regime of practices” by which the governing activity is achieved (it considers four axes: visibilities, knowledge, techniques and practices, and identities). The third element is the “utopian ideal”—the aim towards which governance is directed.

In investigating its possible applications, previous studies have outlined how AoG seeks to uncover and examine the often invisible rationality behind the modes of governance (Gouldson and Bebbington, 2007) and helps to “unbundle” government strategies and aims (Frame and Bebbington, 2012). Thus, this theoretical lens could explain why entrepreneurs decide to adopt a trust in the CG of their companies. Moreover, the attention paid to the “regime of practices” and its four axes should help understand how the implementation of a trust, as a CG tool, is governed. Additionally, AoG is useful in examining the systematic ways of exercising power and authority (Rinaldi, 2014); it could be very suitable for shedding light on the power/authority dynamics between the trustee and the entrepreneur in company management. The AoG has been successfully applied to investigate why and how public or private entities adopt specific institutions or regimes of practices and the subsequent power dynamics (Spence and Rinaldi, 2014; Tregidga et al., 2019; Wall and Connelly, 2016).

For this study, a qualitative approach will be adopted. The case study organisation, one of the most prominent Italian private trust companies, works exclusively as a professional trustee. Information will be mainly collected using semi-structured in-depth personal interviews with professionals (chartered accountants, notaries, and lawyers) who work in this trust company and its clients, entrepreneurs who adopted trust for their family firm governance. All interviews will be digitally recorded and subsequently transcribed. Following previous studies that adopt the AoG (Lai et al., 2019; Spence and Rinaldi, 2014), the interviews will be analysed by an iterative process of manual elaborative coding (Auerbach and Silverstein, 2003). The AoG framework will be used as a loose guiding lens through which the data is observed. Nevertheless, every effort will be taken to ensure that the reading of the data allows for other aspects to emerge beyond those prescribed in the analytics elements.

This research is part of a doctoral thesis and is currently a work in progress. It is expected that this study can significantly contribute to the research regarding family firm governance, broadening the knowledge on a CG model that has not yet been studied extensively but might have much potential for family firms. The study findings can also fill some literature gaps. Particularly, this study can shed light on the reasons and conditions underpinning entrepreneurs’ decision to transfer their company’s

shares to a trust. Moreover, the study can outline the main mechanisms, technologies, knowledge, and strategies adopted to govern the implementation of trust as a CG tool. There are some practical implications as well: the findings could be very useful for entrepreneurs to discover this particular CG model, understanding the role and the effects of trust in the family firm governance, clearing the trustee's behaviour, and the authority-power dynamics in the management of the company. This can help entrepreneurs to knowledgeably assess whether and how to adopt trusts for their family businesses.

Keywords: Entrepreneur; Family Governance; Governmentality; Trusts; Trust Company; Trustee

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LATIN AMERICAN FEMALE ACADEMIC PERCEPTIONS ABOUT THE COVID PANDEMIC'S IMPACT ON GENDER EQUITY AND WITHIN-COUNTRY INEQUALITY

Ramirez Lozano, Julianna¹; Bridshaw, Leslie²; Brito, María³

¹CENTRUM Católica Graduate Business School, Pontificia Universidad Católica del Perú, PUCP, Lima, Perú.

²Universidad de Valparaíso, Valparaíso, Chile.

³Universidad de Guayaquil, Guayaquil, Ecuador.

ABSTRACT

In March 2020, the World Health Organization (WHO) officially declared the start of a new pandemic, COVID-19, due to the evolution and worldwide spread of this virus (Sigua-Rodríguez et al., 2020). This scenario caused the lifestyle (work, studies, social relations, among others) of millions of people to be drastically affected. In addition, as a consequence of this variation, many problems that encompass the entire world were revealed, including inequity, inequality and lack of opportunities.

In the context of lack of opportunities, the lack of opportunities for women in Latin America (LA) is especially evident. Even before the pandemic, the Gender Inequality Index of the United Nations Development Program for America, from 2019, that there was inequality between women and men in three different dimensions: reproductive health, empowerment and labor market; as well as the existence of discrimination in the laws, traditions and social norms of these countries.

However, academic studies on gender inequality have focused mainly on the impact of student learning methodologies, but do not take into account important aspects such as the experience of female academics in LA who, regardless of their work, now in distance, what they do, their level of studies, economic situation or position within the institutions, they face more scenarios such as tasks related to home care and raising children, the sick, the elderly, among others. That is why the objective of this study is to analyze the implications that remote work has had on the personal and work life of academic women from universities in Ecuador, Peru and Chile, considering the perceptions of women about the types of jobs they perform and the context of these in order to make visible the overload, fatigue and stress they experience.

The paper makes use of qualitative study based on data collection and analysis in focus group research. This methodology is based on the theories and methodological concepts of Krueger (1991), Charmaz (2000) and Hays and Singh (2011), to analyze the perception of academic women from three universities in Ecuador, Peru and Chile. This study is part of a larger study carried out in 2020 by a group of researchers from the Latin American Network for Innovation and Entrepreneurship (RLIE) of the Latin American Council of Management Schools (CLADEA).

In our study, 33 undergraduate and graduate academic women participated. Of these, the different types of work they carried out throughout their working hours during the pandemic are identified. As well as the difficulties and repercussions that virtual teaching has had on their personal lives, the implications of training, the material support received from their universities, and the policies and actions of these institutions during the pandemic.

The study analyzed seven factors (socio-demographics; time use in remote work, time use in the home environment, perception of the impact of the pandemic on personal and family life, perception of the impact of the pandemic on work-life, the support of the institution to do remote work and institutional coexistence in remote work), defined in 39 variables that allowed evaluating the perception of women about the new reality in pandemic, as well as the increase in gender inequity and the gender inequality gap experienced by academic women.

The results show that, despite sociodemographic characteristics, level of studies (master's and doctoral degrees) and type of work activity, they have become women affected by inequity and inequality in their own homes, because they had to maintain a balance between your personal and work life. Well, during the pandemic, the vast majority of them lost the external support they had at home and took on more household chores. Their workload also increased because virtuality increased student demand, which is affecting the quality of life of academic women due to the pandemic.

In addition, many of them stated that virtual work from home has meant working 24/7, with no breaks and on weekends. In all cases, high levels of physical and emotional stress and anxiety were observed due to the greater labor demand in universities, regardless of gender. This is mainly due to the fact that they have had to invest hours to learn how to use the new virtual environments and the great demand of students for digital media.

All this evidenced the normalization of the sex-gender binarism, which leads them to assume these greater burdens as a condition and with guilt, particularly in the naturalization of the unequal distribution of domestic work. However, the biggest impact has been the little or no time they have had for applied research, publication development, and conference attendance.

We recommend further research to analyze the specific measures that universities implement to minimize gender discrimination. For example, measures to promote research in the hiring of interest groups against gender quotas; policies that guarantee growth opportunities for women and men through incentives to reduce the teaching load and/or administrative responsibility with a certain level of production; teleworking policies or accountability by objectives, as well as cultural change of work based on time and productivity.

Keywords: Gender equality, Inequality, Women academics, SDG, Gender perspective.

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KNOWLEDGE TRANSFER IN MICRO-ENTERPRISES: THE EFFECT OF LEARNING TRAINING ON PERFORMANCE

Ramirez Lozano, Julianna¹; Rojas Valdez, Kelly¹; Sosa Varela, Juan Carlos²

¹CENTRUM Católica Graduate Business School, Pontificia Universidad Católica del Perú, PUCP, Lima, Perú.

²Universidad Ana Mendez, Puerto Rico.

ABSTRACT

This paper aimed to analyze the effects of knowledge transfer and the knowledge acquired by micro-entrepreneurs through a virtual training program to identify their performance level.

The study was developed in two stages: the literature review and the construction of a structural model based on the analysis of 107 questionnaires administered to micro-entrepreneurs who went through a virtual training program. This structural model included three phases: the initial questionnaire, the experimentation, which included the 5-month training program, and the final questionnaire. The study had a mixed approach, an exploratory scope, and an experimental design.

The research showed evidence about the performance level of the micro-entrepreneurs, considering their managerial competencies and the personal and business improvements. The findings showed a relationship with the theory of individual and organizational learning.

The questionnaire only considered Peruvian micro-entrepreneurs who participated in a training program that included several courses related to their current environments. The analyzed period covered the years affected by the COVID-19.

The model explained the relevance of the personal improvement of micro-entrepreneurs before moving on to business improvements. Likewise, the model revealed that training, before and after the program, played a necessary role and managerial competence.

The research analyzed the need for training of micro-entrepreneurs for personal and private reasons under a COVID-19 scenario to foster their businesses and assume financial responsibilities. This paper considered Peru's reality, i.e., a country where more than 70% of companies are microenterprises. The study also revealed that the micro entrepreneurs' choice to capacitate improved their personal and professional lives and addressed relevant social problems that affect their environments.

The study bridged the literature gap by explaining how the theory of individual and organizational learning can be applied to trained -entrepreneurs. It revealed significant findings linked to their

personal and business improvements. The impact of knowledge transfer indicated the relevance of the managerial competencies related to the performance level obtained.

Keywords: organizational learning, micro-entrepreneurs, managerial competencies, performance, personal improvement.

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BRAND SELFIES: THE MEDIATION OF BRAND SIGNATURE

Raza, Mohsin¹; Khalid, Rimsha¹; Melanthiou, Yioula²

¹Faculty of Management Sciences, Phuket Rajabhat University, Phuket, Thailand.

²Faculty of Communication and Media Studies, Cyprus University of Technology, Limassol, Cyprus

ABSTRACT

Purpose: This study investigates a new kind of electronic word of mouth, “brand selfies”, with evidence showing that narcissism, materialism and the belief system are factors that appear to persuade users to post brand selfies on social media. It further highlights that the expressions while taking selfies may provoke other users to increase engagement with the brand. Brands thus, are devising strategies to increase the proliferation of brand selfies since these brand selfies spark a self-inferential process that makes users feel connected to the brand, leading to stronger loyalty.

Methodology: Smart PLS 3.3 was used for data analysis and data collected through a survey-based questionnaire. A total of 200 questionnaire were distributed and 166 usable questionnaires were considered for further analysis. The target population of the study is young millennials of Thailand.

Findings: The findings highlight the role of narcissism, materialism and the belief system in selfie posting behaviour, and describe the relationship of brand selfies to brand preference and through the mediation of brand signature. The results indicated that brand selfies have a positive influence on brand preferences directly and with the mediation of brand signature.

Originality/Value: The empirical testing of brand selfies in the luxury market of Thailand is considered to be the main contribution, as research in this particular area of study are scant. Furthermore, being carried out during the pandemic, it also allows for some insights regarding online behaviour during times of crises.

Keywords: Brand selfies, Brand signature, Brand preference, Luxury industry, Covid-19

CORPORATE SOCIAL RESPONSIBILITY VERSUS GREENWASHING. CAN BUSINESSES FOOL GENERATION Z?

Real de Oliveira, Elizabeth; Barbosa, Isabel

COMEGI, Universidade Lusíada, Porto, Portugal

ABSTRACT

The concept of corporate social responsibility (CSR) has become crucial to businesses (Wales *et al.*, 2020; Zaid *et al.*, 2020). For this research, CSR refers to business strategies that are ethical and beneficial for the overall sustainable development of society (Islam *et al.*, 2019; Tiwari *et al.*, 2021). In other words, CSR focuses on community outreach, environmental sustainability, employee well-being, and organizational governance (Yang and Stohl, 2020). Greenwashing is a phenomenon based on misleading communication from the organization to its stakeholders (Testa *et al.*, 2018; Torelli *et al.*, 2020), regarding environmental issues, aspiring for obtaining legitimacy (Cormier and Magnan, 2015). This phenomenon may be motivated by the positive consequences of CSR, since according to previous research (Long *et al.*, 2019), CSR leads to a positive corporate image and reputation which benefits the company and its relationship with the stakeholders in the long term.

This paper focuses primarily on the stakeholders' perceptions and behaviour (Generation Z), regarding green/environmental CSR practices. Do consumers that perceive social and environmental business practices buy more? Do they maintain their buying behaviour? If consumers understand that these practices are greenwashing, does this affect their behaviour? Will they "punish" the brand changing their buying behaviour by buying less?

To address the research questions, the authors used experimental research by conducting Implicit Association Tests (IAT - Schimmack, 2021) and Interviews. The empirical research was performed on a convenience sample of individuals belonging to Generation Z, to extend previous research based on this specific generational cohort (Dimock, 2019). IAT was used to measure generation Z respondents' implicit attitudes toward CSR versus Greenwashing campaigns. The interviews were added to further understand consumers' perceptions and behaviour regarding these specific campaigns. The authors collected 40 IAT and 15 interviews. Data was analysed using the template analysis technique (King *et al.*, 2018) and descriptive statistics.

The IAT was a technique developed as a measure to prevent access to consciousness and consequently, bypass the social biases that happen when using explicit techniques such as interviews, surveys, or focus groups, that can influence responses (Greenwald *et al.*, 1998). The foundation for this test was initially suggested by Greenwald and Banaji (1995) who stated that memories (even if they aren't

inserted in a conscious state of awareness) can affect action, attitudes, and behaviour (Greenwald & Banaji, 1995).

The IAT is a simultaneous classification task where participants have to classify pairs of stimuli into mutually exclusive categories. If the participants don't have any prior associations with the stimuli, it is expected that the performance is equal for the number of categories (Izuma et al., 2018). However, if the participants have any (pre-)association it will interfere with the classification tasks (Banaji & Greenwald, 2013). Consequently, the results will show faster responses to that category. In other words, IAT scores reflect the interference effect of (pre-)associations on the classification task. The IAT was conducted using the guidelines of Teige-Mocigemba *et al.*, (2010) and had a duration of 10m. Data was analyzed with the aid of Sennsmetrics software. The test included CSR and Greenwashing stimuli, perceptions of both actions and behaviours; positive and negative attributes; and finally, the correlation between the two behaviours (CSR and Greenwashing) and the positive and negative attributes.

When a stimulus event takes place (0ms), the brain starts processing the information. It takes approximately 200 to 300ms to process and react to it. Responses that occur in less time than 200 to 300ms are considered too fast to have been processed and should be eliminated. Responses that take longer than 650 to 900ms are considered contaminated by conscious decision-making and therefore, should also be rejected.

Based on the theoretical background it was possible to understand that greenwashing can be understood as the difference between what the company says it does in terms of sustainable actions, and what the company truly does. Consequently, companies that communicate themselves as sustainable and present reports and formal documents to make that statement accountable are more inclined to see greenwashing as a solution to keep up with that statement. However, according to the IAT and interview analysis and results, greenwashing has become standard and, consequently, the sample analysed mentioned a lack of trust and belief in sustainable brands. From a managerial perspective, although greenwashing has been considered a practical shortcut, the results based on the study of the Generation Z consumers' (the upcoming cohort of spending and independent consumers) does not support it.

This paper contributes to the field of research by providing a better understanding of Generation Z's perception to better understand the effect of CSR and greenwashing behaviours. When consumers perceive CSR attitudes and values, it leads to a positive corporate image and reputation which benefits the company and its relationship with the stakeholders in the long term. However, when the consumer notices greenwashing behaviour, it leads to a lack of trust and loyalty to the brand, affecting negatively the brand image and reputation.

Thus, this work provides empirical evidence that has a significant impact on scholars, professionals, and companies. Hence, it proves to be useful in both a practical and theoretical setting. In sum, it is vital for business survival that there is an authentic alignment between values and practices.

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Keywords: Consumer behaviour, Stakeholder perception, Green focus, Sustainable development, Greenwashing, Corporate Social Responsibility

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EXPERIENCE OF ACCREDITATION IN PRIMARY HEALTH CARE ORGANIZATIONS: STRENGTHS AND WEAKNESSES

Reigas, Viljaras; Šimanskienė, Ligita

Department of Management, Klaipėda University, Klaipėda, Lithuania

ABSTRACT

INTRODUCTION

Health care organizations are always on their way to improve the quality of services. There are few ways how to improve the quality – it could be done through the implementation of quality standards (ex. ISO series) or through the accreditation of health care processes (ex. Primary health care accreditation) or when the activities are carried out in accordance with quality principles. Accreditation is an important step to improve the quality of PHCO (primary health care organization) (El-Jardali *et al.*, 2014) and has the aim continuously improve performance of health care organizations. The success of PHC accreditation is related with factors using methods of personal management (Rooney and Van Ostenberg, 1999), desire to evaluate oneself (Zenhom *et al.*, 2014), context factors (Zapata-Vanegas and Saturno-Hernández, 2020) and etc. The factors that can lead the process of accreditation to negative ways are type of health care specialist in organization, the accreditation model used (Tashayoei *et al.*, 2020), wrong strategies (Alshamsi *et al.*, 2020), increased workload (Rakic *et al.*, 2018).

According to the problematic of accreditation in PHC we choose *the aim of this research* – to identify the strengths and the weaknesses of accreditation in PHC organization.

METHODS

Semi-structural interview with 17 managers (see table No. 1) from accredited PHC organizations was made in December of 2021. The questions were created based on scientific data's and the experience of authors of this research. After the expert's revision of questions for interview it was totally 28 questions chosen about the preparing for accreditation, processes during the accreditation and implementation and maintaining changes after accreditation.

Table No. 1. Details of Respondents

Sex		Age (Mean, years)	Work experience in APHCO* (Mean, years)	Position		
Male	Female			Chief	Top manager	Manager
68%	32%	57,8	17,8	18%	58%	24%

* APHOC – accredited primary health care organization

RESULTS

Results of this research has shown that improvement of services quality and economical aspects were the main reasons to accredit organization (9 from 7 respondents). 4 respondents assumed that accreditation was a key for self-assessment and preparation to implement ISO series quality standard. Before the accreditation of PHC organization 14 of 17 respondents had a challenge to manage the resistance of employees to the accreditation. Main reasons of resistance of employees: lack of information, communication problems between top level managers and employees. One of the main risks for the success of accreditation was the planning stage – as told 15 respondent it was difficult to plan each step for the future (some of the respondents (6 of 17) had an external experts help). During the interview we found out that accreditation for the respondents started with the first thoughts about the needs of accreditation for organization and each day there were more task related to this. There was found out that the most difficult tasks related with the accreditation process respondents mentioned such: internal audits of each scope (7 of 17), improvement of motivation of employees (9 of 17), conflicts management (5 of 17), planning of stages (17 of 17), improvement communication between departments (12 of 17) and etc. 15 of 17 respondents said that the main reason of these difficult task was lack of experience in PHC organization accreditation (Figure No. 1).

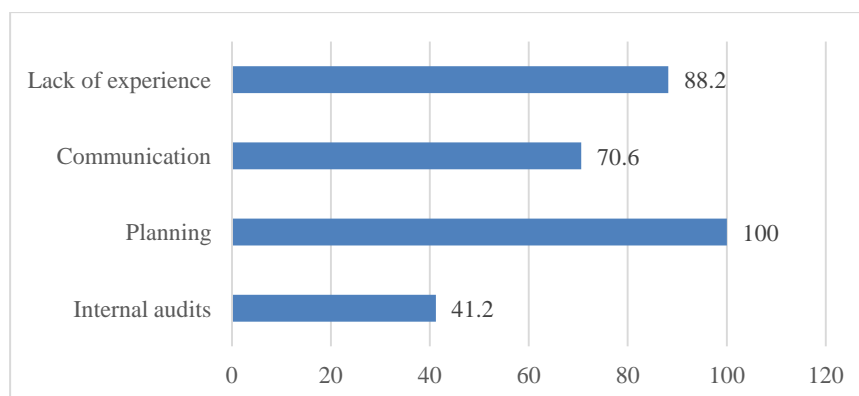


Figure No. 1. Problems related to accreditation of PHC before the Process.

After the six months after accreditation process, how respondents mentioned: was improved service quality assessment (14 of 17), better economic condition of organization (11 of 17), decreased conflicts between employees related to evaluation of the tasks (9 of 17), better planning of the tasks (12 of 17), accountability (14 of 17) as a advantages of accreditation (Figure No. 2). Periodic internal audits (15 of 17), management of documents (17 of 17), no area for the improvisation (8 of 17), need for continuous improvement of internal documents (14 of 17) were mentioned as a disadvantage of PHC organization accreditation.

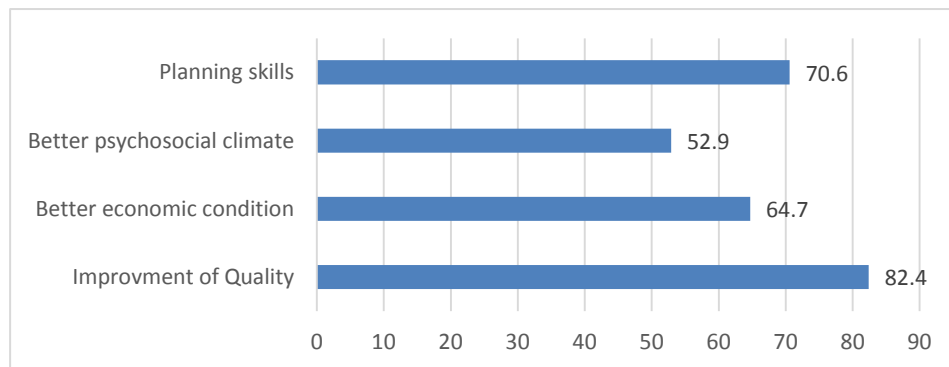


Figure No. 2. Benefits of Accreditation in PHC.

CONCLUSION

PHC organizations' accreditation is a continuous process to improve the quality of health care services and organizational performance. The findings of this research has shown that managers qualification, experience and preparation for accreditation has a big influence for the luck of the PHC accreditation. The main strengths of accreditation are possibilities to improve communication, to plan the stages and accountability in organization. Management of documents, internal audits and management of resistance to innovations are the main weaknesses of the PHC accreditation.

Keywords: accreditation, primary healt care organization, managers, Lithuania.

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KNOWLEDGE SHARING AND COVID-19 PANDEMIC. HOW DOES A GLOBAL CRISIS IMPACT THE ATTITUDE TOWARD KNOWLEDGE SHARING DRIVERS?

Rezaei, Mojtaba

University of Turin, Torino, Italy

ABSTRACT

COVID-19 and its catastrophic and devastating consequences have impacted life, societies and economies by taking millions life and creating misery in many countries, whether progressive, in progress or poor. Many people have lost their jobs, and many economic actors have suffered a massive financial crisis. Moreover, this profound devastating global, spreading widely and fast, has affected everything in people's lives, from personal communications to business and earning life (Zahra, SA. 2021). It has pulled the economy, either micro or macro, into a crisis that has been rare after WW2. Many scholars have already made predictions about Covid-19's wide range of effects, but they found that the reality would be more than their preliminary estimates (Stephan *et al.*, 2020; Castro, P. and Zermeño, G., 2020).

On the other hand, what appears to be sure is that the pandemic will not go away quickly, and even if it does, the world will face a destructive legacy for years and seems to remain with human life, connections, business, and lifestyle for a long time. Therefore, this unpleasant event has become a new fact that highlights the need for essential changes for continuous business, communication, and routine human life. Another permanent fact is the market, with its intrinsic unfairness and compressed competitiveness for firms (Rezaei *et al.*, 2021). Market and its features have been an undeniable truth in firms' business life, with or without crises such as Covid-19. Therefore, enterprises, especially SMEs, are constantly forced to use their resources in a most optimised way to survive and succeed.

According to the resource-based view, firms apply their resources to keep and increase their competitiveness (Desouza and Awazu, 2006). On the other hand, considering the knowledge-based view, knowledge is a critical resource, especially for SMEs that are more limited in accessing other resources such as financial to maintain competitiveness than large firms (Rezaei *et al.*, 2022). Therefore, these firms require further attempts to improve knowledge management practices. Meanwhile, knowledge sharing (KS) is the most crucial phase in applying knowledge needed amongst the KM dimensions (Rezaei *et al.*, 2020). KS has a positive relationship with reducing production costs (Oyemomi *et al.*, 2016), increasing the completion of new products and projects, team and firm performance, and innovation. A well-developed process simplifies the knowledge flows, experiences

sharing, and exchanging thoughts and improves the strategy-making associated with the organisation in designing and developing activities (Nunes *et al.*, 2006). Accordingly, SMEs need to recognise the causes of sharing obstacles and drivers impacting the KS processes. The importance of recognising the KS pros and cons arises when SMEs are met with barriers imposed by a global crisis that affects their routine life, definitely. Covid 19 epidemic has been a critical practical lesson for SMEs and future entrepreneurs to increase their understanding of the KS and its drivers. While the initial needs are made SMEs more curious about KS drivers unconsciously and forced them to step in taking strategies and plans for facilitating the sharing processes, unpredictable external factors such as an epidemic push them more to rearrange the KS quickly.

Given the literature gap and the small FB's important role in the economy, this exploratory study addresses the attitude and potential changes toward knowledge sharing drivers in small family businesses by considering the consequences of the Covid -19 pandemic. The authors seek to find the convenient answers to these questions; How do knowledge sharing drivers seem important among founders, owners, and managers of small family businesses in the restaurant and fast-food industry? And is there any variance between their attitude towards drivers before and during the pandemic? To meet this end, we conduct a survey and analysis of data collected from professionals for the confirmatory factor analysis (CFA) before and after the emergence of the pandemic. Accordingly, two same questionnaires, by a Likert five scale, were distributed among the responders at two different times, the first was for 2019, and the second was for 2021. In the questionnaire, we wanted the responders engaged in small family businesses in the restaurant and fast foods industry to share their ideas about the importance of the recognised drivers and items. For example, we asked; how much do you consider trust as an essential for KS? The value of "1" shows unimportance, and "5" indicates the maximum importance.

Regarding both periods, factors in three driver groups, i.e., individual, technological and organisational, have a high level of importance amongst founders, owners and managers of small FB in the restaurant and fast-food industry. According to pre-pandemic findings, the ODs driver impacts on the KS in FB are more influential than the other two dimensions. OD is more related to financial and non-financial rewards, management support and organisational structure and culture. The outputs for the pandemic period illustrated two fundamental aspects of attitude toward KS drivers. First, the responders increased their scoring on all factors in three main drivers compared to pre-pandemic values so that changes in evaluation are found in their assessment. Second, Covid 19 impacts are seen in changing the main drivers sorting, in which the FB founders, owners and manager replaced the first position with TD. Therefore, they considered a much more important value for TD, although they also increased the ID and OD scores. The finding shows that the pandemic has been a

turning point for improving the significance of knowledge and sharing processes in FBs. Moreover, it has been a converter for changing attitudes from environmental and individual features to technological and informational drivers.

Our results have contributed to the research streams of KS and FB in the restaurant and fast-food industry when we help to improve prior studies and respond to current needs for more exploratory analysing of the influential factors in the KS domain in small FB. This study also adds to the ongoing discussion on KS in FB by clarifying the point that the impacts of a specific driver can be different from another in importance and intensity scale.

Moreover, by comparing two different periods' consequences, we tried to light the differences and changes that can be imposed on KS drivers' ranking of importance. This finding could be a new stream for future research on external factors' impacts on KM in SMEs. From a managerial point of view, the results also help family firm owners and founders increase their knowledge about KS motivators for shaping and managing a knowledge-sharing system to expand the knowledge inside the organisation. FB owners and entrepreneurs can have a roadmap for improving their knowledge yield by understanding the different drivers' effectiveness in a crisis. This study also has a vital flip for the local and federal government and macroeconomic planners in using the finding for drawing short- and long-term strategies needed to increase the sustainability of the FB.

Keywords: Knowledge management, Knowledge sharing, Small family business, Covid 19 pandemic, Restaurant and Fast-foods industry

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HOW CAN VR BOOST INSPIRATION AND INCREASE DONATIONS

Rodrigues, Mariana¹; Loureiro, Sandra¹; Lopes, Flávia²

¹Business Research Unit (BRU-IUL), ISCTE – Instituto Universitário de Lisboa, Lisboa, Portugal

²ISCTE – Instituto Universitário de Lisboa, Lisboa, Portugal

ABSTRACT

One of the major challenges that non-profit organizations face is inspiring people to be concerned about issues seem geographically and emotionally distant. The aim of this study is to explore how Virtual Reality (VR) can boost inspiration and encourage potential donors to contribute to nonprofit fundraisings. To achieve this aim, a three group between-subjects experiment was employed to assess how varying the degree of immersiveness of a short documentary about a remote health issue impacts user reported social and spatial presence, inspiration, and donation intention. 150 participants took part in the experience and watched the documentary using three different technologies (HMDs, mobile HMDs with iPhone 11, computer desktop) with distinct immersion levels (high, moderate, and low). Findings reveal that perceived media richness gradually increases the user's spatial presence. Then, the positive effect of social and spatial presence on customer inspiration was tested and successfully verified. Finally, customer inspiration increases donation intention. Participants of the moderate immersion condition report higher inspiration and intention to donate than the ones in the low immersion condition. Thus, mobile HMD is an effective fundraising technology that can drive inspiration and boost donation intentions from prospective donors to nonprofit organizations. The results for the highly immersive condition were not conclusive. This study has theoretical and practical contributions as it identifies the key role of customer inspiration to increase donation intention emphasizing the moderation role of the immersion level.

Keywords: virtual reality; customer inspiration; donation intention; nonprofit organizations; social marketing; immersion level

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AN EXPLORATORY STUDY ABOUT THE INFLUENCE OF MINDFULNESS FEELINGS TOWARD AN INDIVIDUAL'S OUTDOOR LIFESTYLE AND EMPOWERMENT

Rodrigues, Paula¹; Sousa, Ana²; Borges, Ana Pinto^{3,2}

¹Universidade Lusíada, COMEGI (Research Centre in Organizations, Markets and Industrial Management), BRU-IUL (Business Research Unit – Instituto Universitário de Lisboa), Porto, Portugal

²COMEGI (Research Centre in Organizations, Markets and Industrial Management), Porto, Portugal

³ISAG – European Business School and Research Center in Business Sciences and Tourism (CICET - FCVC), Porto, Portugal

ABSTRACT

This research intends to understand how attention to one's feelings and a person's outdoor lifestyle affects an individual's empowerment. Mindfulness-based approaches were used in this study. The meaning of mindfulness is perceived and understood across several fields that advocate its effects on the consumers (Ali *et al.*, 2021, Kraft *et al.*, 2019, Težak Damijanić, 2019). One of the dimensions of mindfulness is attention to one's feelings. According to Lubowiecki-Vikuk *et al.* (2021, p. 92) "an individual, with their behaviors toward themselves, including health, wellbeing, sense of happiness, comfort, and safety, is as important as the entire society".

In this work, we consider that mindfulness is important for the individual's outdoor lifestyle. This is in the same vein with the work developed by Grénman *et al.* (2019), which indicated that wellness has gone beyond the simply physical dimension, to substantially include emotional, spiritual, social, and intellectual aspects. For mindfulness, it considers is the recognition that occurs by giving attention, on purpose, in the current moment, and nonjudgmentally. For Gadhavi and Sahni (2020, p. 418), mindfulness "is a state of being conscious". The focus is developing present moments of awareness and acceptance with positive emotions that strengthen an individual's internal resources (Gidugu and Jacobs, 2019). Mindful individuals make advised options and are aware of themselves, their communities, and society (Bahl *et al.*, 2016). Mindful behavior has two facets: the internal (which include one's disposition toward one's happiness, health, and financial stability) and the external (which include one's orientations toward society and environmental).

Considering that mindfulness encourages the substitution of habitual and reactive behaviors with increased self-regulation, we can posit that mindfulness impacts an individual's lifestyle and consumer empowerment (Balderjahn *et al.*, 2020, Thompson *et al.*, 2018). Consumer empowerment is defined as a subjective state rising from individuals' perceived feelings of control (Sharifonnasabi *et al.*, 2020, Nam, 2019). Then, we posit two hypotheses:

H1: Attention to one's feelings positively affects a person's outdoor lifestyle.

H2: A person's outdoor lifestyle positively affects empowerment.

We used a quantitative methodology. Data were collected through a self-administrated online questionnaire. In total, 199 questionnaires were completed of a convenience sample. The measures used in this study were based on previously validated measurement scales. All items were measured using a five-point Likert scale ranging 1 from (strongly disagree) to 5 (strongly agree).

We conducted a structural equation model using SPSS AMOS 26 to test the hypotheses. A confirmatory factor analysis of the measurement model with a maximum likelihood estimation method was conducted to assess the adequacy of the psychometric properties of the measures. All the measurement model fits as done good results. To test the hypotheses, we conducted a structural equation model.

The findings show that mindfulness (attention to one's feelings) has a significant and positive influence on outdoor lifestyle ($\beta = 0.24, p < 0.05$), supporting hypothesis 1 and the outdoor lifestyle has a significant and positive influence on individual's empowerment ($\beta = 0.24, p < 0.01$), supporting hypothesis 2.

This study contributes to theory by developing the application of mindfulness in the context of the outdoor lifestyle. On the other hand, it is found that individuals who consider mindfulness in an outdoor lifestyle feel more empowered. These results have important managerial implications because they show companies that mindfulness behavior can change consumers' motivations and attitudes. This means that previously developed strategies of increasing consumption need to be modified by more experiential strategies.

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Keywords: Mindfulness, lifestyle, empowerment, consumer behavior, structural equation model.

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THE INFLUENCE OF MASSTIGE BRANDS ON CONSUMER'S BRAND RELATIONSHIP: A SOUTH EUROPEAN PERSPECTIVE

Rodrigues, Paula¹; Sousa, Ana²

¹Universidade Lusíada, COMEGI (Research Centre in Organizations, Markets and Industrial Management), Porto, Portugal

²COMEGI (Research Centre in Organizations, Markets and Industrial Management), Porto, Portugal

ABSTRACT

The uncertain economic climate triggered by the Covid-19 pandemic characterised the year 2020 and caused cuts in consumer discretionary spending. However, with the resurgence of the economy and the increasing dominance of generations Y and Z, the global luxury goods market is expected to increase from US\$309.6 billion in 2021 to US\$382.6 billion in 2025 (Statista, 2021). The instability of the markets, alongside uncertainty about the resilience of luxury brands and changing consumption patterns, have made the democratisation of luxury a priority (Wang, Yuan, Luo, & Liu, 2022). On the other hand, the democratisation of luxury has been associated with the term “masstige” (mass prestige), defined as “a phenomenon in which premium/high-value products are marketed to maximum number of customers by creating mass prestige while keeping the prices constant” (Paul, 2019, p. 300), symbolising affordability and availability in the mass market (Kumar, Paul, & Unnithan, 2020).

Although Silverstein and Fiske coined the term masstige in 2003, only recently did it capture the scientific community's attention, and, as such, research in this field is still in an early stage (Kumar et al., 2020). Established on consumer-based brand equity, the relationship between consumers and masstige brands has been analysed in the context of consumer happiness (Kumar, Paul, & Starčević, 2021; Mansoor & Paul, 2022), brand evangelism (Mansoor & Paul, 2022), social media (Bilro, Loureiro, & dos Santos, 2021), consumer's need for uniqueness (Das, Habib, Saha, & Jebarajakirthy, 2021; Das, Saha, & Balaji, 2021) and brand management (Baber, Upadhyay, Singh Kaurav, & Baber, 2020; Kumar & Paul, 2018; Paul, 2018, 2019). Consumer-brand relationship (CBR) is a key aspect for brand management, becoming even more important when it comes to luxury and masstige brands (Fetscherin, 2014; Fournier, 1998). Understanding the factors that lead to creating a strong positive emotional connection with luxury brands, and more specifically with masstige brands, is a relevant theme in brand management (Kapferer & Valette-Florence, 2016; Rodrigues & Rodrigues, 2019). This research seeks to understand the influence of masstige brands on consumer-brand relationships, specifically brand love and consumer happiness and its contribution to generating brand loyalty. Therefore, we propose the following hypotheses:

H1: Masstige brands have a positive influence on brand love.

H2: Masstige brands have a positive influence on brand happiness.

H3: Brand love has a positive influence on brand loyalty.

H4: Brand happiness has a positive influence on brand loyalty.

A self-administrated questionnaire examined the relationships between masstige brands, brand love, consumer's happiness, and brand loyalty. Data was collected in February 2021 by a major international research agency that maintains global representative probability-based online panels within the Spanish ($n = 311$) and Portuguese markets ($n = 225$). The brands used in this research were Starbucks, Michael Kors, Apple, Mercedes, Estée Lauder, and Whirlpool. All constructs were measured using five-point Likert scales adopted from previous research. The hypotheses were tested with partial least squares structural modelling (PLS-SEM), with structural equation techniques based on variances (Hair, Black, Anderson, & Babin, 2018). Findings provide support for all hypotheses with a significant positive effect of masstige brands on brand love ($\beta = 0.682$, $p < 0.001$), and on brand happiness ($\beta = 0.588$, $p < 0.001$), a significant positive effect of brand love on brand loyalty ($\beta = 0.199$, $p < 0.001$), and a significant positive effect of brand happiness on brand loyalty ($\beta = 0.491$, $p < 0.001$). From a theoretical point of view, this study helps fill one of the gaps in the literature regarding the need to develop CBR models and masstige (Kumar et al., 2020). This research also contributes to brand managers providing insights on developing masstige strategies and close relationships with consumers to stimulate brand financial performance.

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Keywords: Masstige Brands; Brand Love; Brand Happiness; Brand Loyalty.

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TO SPEAK OR NOT TO SPEAK WITH MY BOSS? THE ROLE OF TRUST IN LEADERSHIP AND INFORMATIONAL JUSTICE ON EMPLOYEES' SILENCE AND VOICE

Sabino, Ana¹; Cesário, Francisco²

¹ISPA – Instituto Universitário - APPsyCI - Applied Psychology Research Center Capabilities & Inclusion & CAPP/ ISCSP/ Universidade de Lisboa, Lisbon, Portugal

²Atlântica – Instituto Universitário. & CAPP/ ISCSP/ Universidade de Lisboa, Lisbon, Portugal

ABSTRACT

Specific actions from supervisors may lead to employees' constructive or destructive behaviors in organizations. We aim to analyze the mediating role of leadership informational justice in the relationship between trust in leadership and employees' voice and silence when facing their leader. In addition, our goal is to contribute with a better understanding of the nature and relation of employee's voice and silence, using Van Dyne, Ang and Botero (2003) approach.

We used Robinson (1996) 7-item scale for trust in leadership. For leadership informational justice, we adopted Rego (2010) organizational justice composed of a 4-item scale. We also used the 15-item scale developed by Dyne et al. (2003) to assess employees' voice and silence. The participants answered the questionnaire items using a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Our sample is composed by 212 participants aged from 21 to 67 years old (M= 40.3, SD= 9.5). We analysed our data using SPSS (version 27) and LISREL.

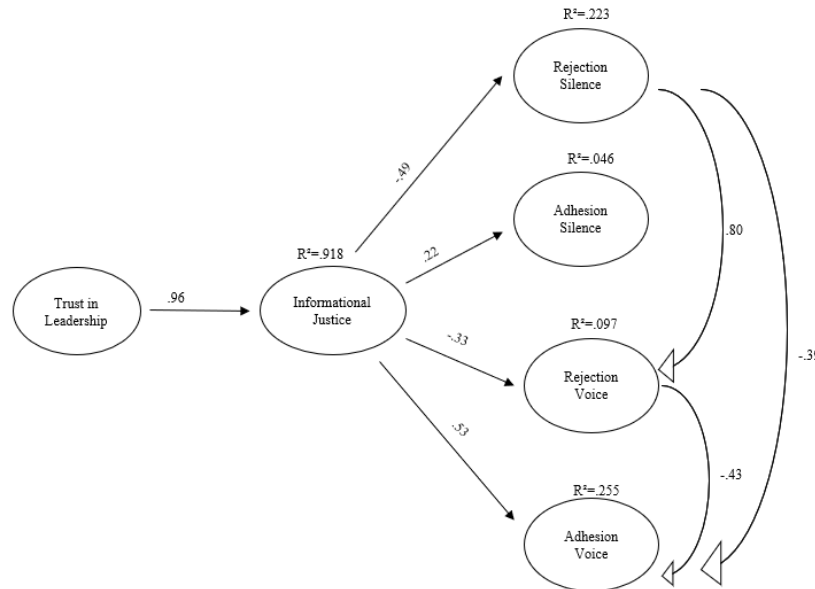
Confirmatory factor analysis suggests that there are two types of employees' silence and voice. A rejection silence/ voice towards their supervisor (*I speak or I don't because I fear my boss and I'm defending myself*) and an adhesion silence / voice towards their supervisor (*I speak or I don't because I'm cooperating and I'm loyal to my boss*).

Study participants have low levels of rejection silence and voice (M=2.33; SD= 1.39 and M=2.54, SD=1.41, respectively), medium levels of trust in leadership (M=4.22, SD=1.79) and informational justice (M=3.98, SD=1.86) and high levels of adhesion silence and voice (M=4.80, SD= 1.51 and M=5.31, SD=1.47, respectively).

Finally, using structured equation modelling, which had a good fit to the data ($\chi^2/df=1.5$; CFI= .969; IFI= .969; RMSEA= .088), our results our suggested that adhesion silence doesn't correlate with any other kind of voice or silence ($p> .05$). We also found a high correlation between rejection silence and rejection voice ($r= .80$, $p<.05$). Rejection silence and adhesion voice have a moderate correlation ($r= -.39$, $p<.05$).

Regarding the mediation analysis (figure 1), our final model suggested a total mediation of informational justice in the relation between leadership trust and rejection silence, adhesion silence, rejection voice and adhesion voice.

Figure 1 – Final Model



In a research point of view, the relation between employees' silence and voice it still not clear. The better clarification of this issue will improve knowledge of this research topic. In a managerial point of view, leaders and HR Managers need to be aware of employee's voice and silence types and antecedents to act accordingly. Because informational justice totally mediates the relation between trust in leadership and communication, managers need to be aware that is not enough to promote trust because, for trust in leadership to have any effect on employee's voice and silence, they need to perceive a fair informational justice from their leaders. Therefore, we can propose some actions like training sessions for the leaders in feedback techniques that will improve leaders' communication and consequently lead them to more informational fairness. We also can propose the promotion of team buildings with the leaders and their teams to reinforce the lead trust.

Keywords: Employee Voice, Employee Silence, Trust in Leadership, Leadership Informational Justice

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UNDERSTANDING BEHAVIOURAL STRATEGIES IN THE WORKPLACE: EXIT, VOICE, LOYALTY, NEGLECT AND SILENCE

Sabino, Ana¹; Cesário, Francisco²

¹ISPA – Instituto Universitário- APPsyCI - Applied Psychology Research Center Capabilities & Inclusion & CAPP/ ISCSP/ Universidade de Lisboa, Lisbon, Portugal

²Atlântica – Instituto Universitário. & CAPP/ ISCSP/ Universidade de Lisboa, Lisbon, Portugal

ABSTRACT

Organizations face challenging times that highlight the need to understand different phenomena, such as behaviours that individuals deliberately assume in organizational settings, also known as behavioural strategies. One of the most known models to study behavioural strategies is the Exit, Voice, Loyalty (EVL) model, initially proposed by Hirschman (1970) to explain what people do when facing a decrease in satisfaction. Exit is characterized by the end of the relationship between the individual and the object. Voice refers to talk through the situation, varying from an aggressive to a constructive voice. Loyalty is an unclear and complex construct, either an attitude or behaviour. These two distinct perspectives have caused countless academic circles of discussion (i.e., Leck and Saunders, 1992;).

Later, the model was reconceptualized for the organizational setting by Farrell (1983) and named Exit, Voice, Loyalty, Neglect (EVLN) model. Exit is the active/destructive solution, voice is the active/constructive solution, loyalty is the passive/constructive solution, and neglect is the passive/destructive nature. A set of questions arise (Dowding et al. 2000) regarding EVLN model. The authors discussed that the EVLN model does not consider the possible relation / sequence between strategies. It only considers four when individuals can act in other different ways (i.e., destructive voice, silence) and the complexity of loyalty it is not considered. Based on this criticism, different authors have recently studied employee silence as an alternative behavioural strategy. Because of its increasing attention and need for further research, we used the reconceptualized model proposed by Sabino et al. (2019)- Exit, Voice, Loyalty, Neglect, Silence (EVLNS) model.

Therefore, we aim to study the mediating role of job satisfaction, loyalty, and silence in the relationship between organizational commitment and exit, voice, and neglect.

Our sample is composed of 756 participants. For EVLNS we used 53-items scale adapted from Sabino et al. (2019). We used Meyer and Allen (1991) 19-item scale for organizational commitment and Hackman and Oldham (1975) 4-item scale to measure job satisfaction. We used structural equation modelling (SEM) analyses. The final model presented a good fit (RMSEA=.069; CFI=.98; IFI=.98; GFI=.89).

The final structural model suggests that behavioural strategies may have different natures, influencing each other. The results also show a partial mediation of job satisfaction in the relationship between affective commitment and exit, loyalty, and neglect. Job Satisfaction also partially mediates normative commitment and loyalty and continuance commitment and adhesion silence. In terms of employee silence, rejection silence partially mediates the relation between affective commitment and neglect, and adhesion silence partially mediates the relation between affective commitment and neglect and job satisfaction and neglect. We also found that loyalty fully mediates the relation between affective commitment and job satisfaction with adhesion silence.

This study shows the complexity and importance of studying behavioral strategies, antecedents, and consequences. Also, job satisfaction mediation role is highlighted to minimize destructive behaviors and boost constructive ones.

Keywords: Organizational Commitment, Job Satisfaction, Exit, Voice, Loyalty, Neglect, Silence

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EMERGENCE OF SUSTAINABLE BUSINESS MODELS: A CASE OF ELECTRIC COMMERCIAL VEHICLE ECOSYSTEM

Sadeghian Dehkordi, Rashid¹; Ahokangas, Petri¹; Evers, Natasha²; Sorvisto, Mika³

¹University of Oulu, Oulu, Finland

²Halmstad University, Halmstad, Sweden and Trinity College Dublin, Dublin, Ireland

³Ahola transport, Oulu, Finland

ABSTRACT

INTRODUCTION

Reducing greenhouse gas (GHG) emissions and mitigating the effects of climate change are the heart of the sustainable energy transition which requires urgent action (European Commission, 2020). The freight transportation sector is the main focus, as this sector accounted for nearly half of the transport-related CO₂ emissions, and forecasts point to a 160% increase in CO₂ emissions related to transport as total freight demand is projected to triple by 2050 (IEA, 2021). The electrification of transportation is widely regarded as one of the most promising goals with the greatest potential for carbon-free and sustainable transportation systems. Introducing low-emission vehicles reduces the negative effects of transportation while maintaining an efficient freight transportation ecosystem. The use of electric commercial vehicles (ECVs) is one of the available technical solutions because it has the potential to significantly reduce CO₂ emissions. The advantages of ECVs are comparative and have been demonstrated in many aspects, e.g., lower operational cost, mitigating climate change, and improving energy security by reducing the dependency on fossil fuels.

Despite continuous improvements in ECVs technologies such as producing lower costs, higher range, and faster charging, the widespread adoption of ECVs into freight transportation ecosystem is still rare. The transition from conventional diesel vehicles to electric vehicles does not seem easy due to inadequate technology maturity, a wide variety of stakeholders in the ECV ecosystem, and a not yet proven business case. Several logistics companies are looking to integrate ECVs into their operations but are stymied by a series of challenges slowing the shift from diesel vehicles. The large-scale integration of ECVs into the market faces numerous hurdles, such as inadequate charging infrastructure, low grid capacity, and a lack of interoperability in the entire ecosystem.

The disadvantages mentioned above for ECVs can also be interpreted as opportunities for new business model applications in the ECV ecosystem (Elmustapha & Hoppe, 2020; Laurischkat & Jandt, 2018). An increased focus on sustainable transportation has stimulated a trend within the ECV ecosystem toward sustainable business models (SBMs) that put sustainability at its core, which is a

promising solution to restrict such emissions. SBM is defined as a business model that creates, delivers, and captures value for all its stakeholders without depleting the natural, economic, and social capital (Breuer & Lüdeke-Freund, 2014). They can contribute to the transition from conventionally powered diesel vehicles toward electric vehicles, supporting sustainable transport systems.

While extant research has focused on the BMs for electric passenger vehicles, one interesting research question this study aims to answer is how new SBMs for electric commercial vehicles emerge in the ECV ecosystem. In this sector, many SBMs are still unclear – the relationships and roles of different actors (de Rubens et al., 2020). Existing SBMs are adequate to examine the challenges faced by a single actor but less suited to analyzing the interdependent nature of the growth evolving in the ecosystem which is defined as communities of heterogeneous participants who collectively generate an ecosystem value proposition (Adner & Feiler, 2019). To fill the gaps in the literature, we explore the emergence of new SBMs in the ECV ecosystem. This work is different from previous research in the area of ECVs and SBMs. In this paper, SBMs are assumed as a tool for the ECV ecosystem, helping them achieve their desired sustainability goals and address environmental concerns.

METHOD

This paper applies a qualitative research methodology combining exploratory case study analysis. The complex nature of the research topic and the early stage of the ECV industry justify using the exploratory nature of the inquiry (Yin, 2013). The case study research method is well adapted to answer the "how" types of questions with substantial evidence on processes in early innovation strategies (Eisenhardt & Graebner, 2007). In this paper, the ECV ecosystem is identified as a pertinent case to study SBMs in an ecosystem. The primary data for the case study is collected from semi-structured interviews with different stakeholders having diverse roles in the ECV ecosystem.

EXPECTED OUTCOMES

This research will explore the emergence of SBMs in the ECV ecosystem and investigate how companies build their SBMs to overcome barriers to integrating ECVs into the fleet. It also discusses how new and innovative business models emerge within the ECV ecosystem. The unique and practical contribution of this study is using SBMs as a tool for the transition from conventional diesel vehicles to electric vehicles in freight transport.

The innovative contribution of the paper rests on three perspectives. Theoretically, it introduces the most recent theoretical development of the sustainable business model for the systemic design of the ECV ecosystem in the digital age; It unpacks the concept of sustainable business models and offers an ecosystemic conception of it. Methodologically, it captures different dimensions of the ECV ecosystem

as a case study by relying on open thematic interviews. Empirically, it maps all the stakeholders in the ECV ecosystem and not only lists the stakeholders but also how they are connected to each other. The article also provides an insight into the state of the art of sustainable business models in various application areas and future research directions. Consequently, the contribution of this article is to present the widespread applications of sustainable business models in addition to an in-depth investigation of various application domains in the ECV ecosystem.

Next to the aforementioned implications for research, this study also provides valuable insights into managerial practice with respect to strategy. From a managerial and entrepreneurial perspective, the paper's findings highlight the role of the business model and the continuous assessment of the business model in evaluating the business opportunity and changes in opportunity.

Keywords: Sustainable Business Models; electric commercial vehicles; Emergence; Ecosystem.

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REVENUE MANAGEMENT CAPABILITY AND HOST PROFESSIONALIZATION DEGREE

Sainaghi, Ruggero¹; Abrate, Graziano²

¹Department of Business, Law, Economics, and Consumer Behavior, Università IULM, IULM, Milan, Italy

²Department of Economics and Business, Università del Piemonte Orientale, UPO, Novara, Italy

ABSTRACT

The large diffusion of the sharing economy and in particular the phenomenon of short-term rentals (STR) has attracted the interest of many supply papers, mainly focused on price/revenue determinants (Sainaghi, 2020). This literature is growing and based on quantitative data has identified many price antecedents and more generally pricing strategies. Size, listing amenities, host variables, accessibility, guest reviews and contractual terms are the main groups of variables used (Sainaghi, 2020).

The previous studies agree that host professionalization – variously defined and later discussed – has a strong impact on revenue management and pricing strategy. In fact, professional hosts are more oriented on revenue rather than on price maximization (Oskam, et al., 2018). At the same time, some previous articles agree that this quantitative approach is unable to explore why professional host are more efficient than unprofessional and in particular how they are able to create revenue management capability (Cocola-Gant, et al., 2021). Based on higher performance achieved by professional hosts, these previous studies agree that professional providers have developed a revenue management capability, but they fail in identifying the components (resources and routines). This is the goal of this study, that based on Milan hosts' interviews depicts the links between professionalization degree and revenue management capability creation. The theoretical lenses used by this study is the resource-based view and in particular the capability approach. Resources are the assets that the firm possesses or controls, whereas capabilities refer to the firm's skills in exploiting and combining these resources through organizational routines in order to achieve objectives (Amit & Schoemaker, 1993). Previous studies on hosts suggest the presence of some relevant capabilities, as the preparation of the listing (interior design, furniture, style), commercialization (communication, pricing strategy, channel management), interaction with guests (check-in, check-out, cleaning, laundry, property maintenance), financial capability (invoicing, taxation, money recovery for new investments) (Cocola-Gant, et al., 2021). This study focuses on the commercialization capability, defined in this paper as revenue management capability, considering the centrality for hosts of revenue maximization.

PROFESSIONALIZATION DEGREE AND HOST PERFORMANCE

Some quantitative studies exploring the price determinants, revealed that professional hosts (usually

defined as multi-listing providers) achieved higher (Chica-Olmo, et al., 2020), lower (Tong & Gunter, 2020) or even marginal positive or negative effects on STR rates. Therefore, professionalization degree appears generating controversial effect on STR price. However, these ambiguities are mainly related to the focus on price rather than on revenue. In fact, other quantitative supply studies agree that professional hosts achieve higher revenue than unprofessional hosts (Sainaghi, et al., 2021). The professionalization degree is usually operationalized considering the number of listings managed – see for example the 20 studies analyzed by (Abrate, et al., 2022) – eventually integrated with other variables, as experience (number of years in the STR business), type of listings (usually professional hosts avoid to rent shared rooms) and year-round availability (longer for professional) (Bosma, 2021). While in many studies there is a juxtaposition between professional (or commercial, corporate, multi-listings), on one side, and individual (or single-listing, mom-and-pop, individual), on the other side, recent articles introduced the idea of professionalization process or degree (Bosma, 2021). In big cities, there are dozens of thousand of hosts. The twofold segmentation (professional and non-professional) appears too simplistic. The reality of the STR hosts is more complex and the boundary between different types of providers is more nuanced. The professionalization degree favored the recent development of some new type of hosts. For example, the corporate hosts were threefold segmented (Cocola-Gant, et al., 2021), while in the case of marginal hosts some analytic distinctions have been proposed (Semi & Tonetta, 2021) or the hosts' segmentation based on the number of listings managed has been enlarged, distinguishing between single, two listings, three listings, four to ten listings or more than ten listings managed (Sainaghi & Baggio, 2021).

Considering the explorative nature of this study, the professionalization degree in the current paper has been mainly operationalized considering the number of listings managed. In addition, the year-round availability was considered. Furthermore, the focus was only on host managing an entire apartment or house, excluding shared room providers. This choice is related to the goal of this paper, that is exploring the revenue management capability. Some additional details about how professionalization degree is analyzed are provided in the Methodology.

REVENUE MANAGEMENT CAPABILITY

This section identifies which resources can generate a revenue management capability in the field of STR. The resource-based view defines resources as stock of factors that are own or controlled by a company, while capabilities focuses on firm ability to use these resources, usually in combination and in particular in complex processes (Amit & Schoemaker, 1993). At the firm level, resources and competences embody the competitive advantage. Resources can be tangible and intangible, human and financial. Following a resource-based view of the firm, the pricing process is considered a capability

that combines routines, skills and coordination mechanisms (Dutta, et al., 2003). This paper extends this view to the concept of revenue management capability in the field of STR.

Based on previous studies on revenue management in the field of hospitality, a wide list of routines, skills, know-how and coordination mechanisms are considered to explain how the revenue management capability can be created by a host. In particular, the revenue management process can be segmented into three major components: i) identifying the required information to set the revenue management strategy, ii) taking strategic and then tactical pricing and revenue management decisions, and iii) managing the communication and interaction with the guests.

METHODOLOGY

As discussed in the Introduction, this study for the first time explores the revenue management capability creation in the field of STRs. Considering the explorative nature of this research, a qualitative approach based on interviewees was adopted, in line with some recent papers focused on STR hosts (Cocola-Gant, et al., 2021). These studies usually realize 30-40 interviewees mainly on Airbnb hosts, using semi-structured questionnaires.

The sample was extracted by the AirDNA database from Milan. This city was selected for two reasons. First, authors know very well this context used for previous research. Second, Milan is the second leading Italian destination after Rome and attracts different targets, as business, leisure and trade fair. Focusing on this last segment, Fiera Milano organizes dozens of events. Therefore, in the Milan city there are continuous change in off- and on-pick, constituting an ideal setting for exploring the creation of a revenue management capability.

Keywords: Revenue management; Capability; Airbnb; Professionalization degree; Qualitative approach; Milan.

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WHAT IS THE EFFECT OF SOCIAL MEDIA USAGE ON EMPLOYEE ELECTRONIC WORD-OF-MOUTH COMMUNICATION?

Sakka, Georgia

Dean of Business School, Unicaf University, Larnaca, Cyprus and University of Nicosia, Nicosia, Cyprus

ABSTRACT

Social media (SM) has significantly changed how individuals interact, communicate, exchange, provide, and receive information (Ali-Hassan et al., 2015; Sakka and Ahammad, 2020; Chen and Wei, 2020). This transition inevitably shows up in contemporary workplaces as well.

In order to assist modern businesses in redefining their SM usage strategies and policies, additional research is anticipated to shed light on the ways that SM modify social capital factors, organizational incidents, and the operation of businesses in general (Charoensukmongkol, 2014; Huang et al., 2015; Ngai et al., 2015; Bala et al., 2019; Chen and Wei, 2020). While the impact of SM on society and the community has received a lot of attention, little research has looked at how the spread of SM has affected communication inside an organization (Huang et al., 2015; Ngai et al., 2015; Lee, 2020).

In specific, further study is needed into the dynamic and interactive ways that SM communication can be used to leverage value in the corporate environment, particularly from the marketing and Human Resource (HR) approaches (Wu, 2016). This is an opportunity since SM facilitates virtual contact that strengthens social capital relationships at work, giving organizations a competitive edge (Wickramasingh and Nisaf, 2013; Parry and Solidoro, 2014; Sias and Duncan, 2020). It is suggested that SM serves as a tool for motivating the existing workforce and as internal marketing that enhances organizational culture (Gibbs et al., 2015; Sakka and Ahammad, 2020). As a result, it is advised that more research be done on the internal communication and marketing potential of SM in the context of organizations (Gibbs et al. 2015; Wu, 2016; Cervellon and Lirio, 2017; Wushe and Shenje, 2019).

The marketing literature is also urging an additional investigation, particularly into the word-of-mouth domain and the emotional and social factors that influence employees' decisions to talk favourably or badly for their organisation (Cervellon and Lirio, 2017; Sias and Duncan, 2020). Internal marketing may benefit from SM in the near future as employees may be persuaded to use SM networking to promote their companies online and act as brand ambassadors (Parry and Solidoro, 2014; Bravo et al., 2017; Sakka and Ahammad, 2020).

Corresponding to the above, this research explores the role of employee SM usage on employee electronic word-of-mouth (eWOM) behaviour. In specific, this study empirically examines the effect of employee SM usage on workplace bonding social capital ties (social and emotional support) and

positive and negative employee eWOM behaviour, through employee satisfaction in the Cyprus hospitality industry.

As concerns, the methodology approach, the primary research itself adopts the critical realism perspective and designs and applies a qualitative methodological approach. The qualitative research data gathering technique adopted in this study is that of semi-structured interviews, with the participation of 31 informants. The analysis of the results applies the thematic analysis technique, through the identification of patterns, themes and subthemes. Based on these, and incorporating all critical primary research findings, a final empirically tested framework is developed and presented.

The research findings of the study emphasize the beneficial impact of employees' use of SM on social and emotional support, which are linked to a number of organizational advantages, including employee happiness. Although disadvantages are also mentioned, their scope and severity are limited. Additionally, it is discovered that employee SM social behavior has a beneficial impact on their eWOM behavior, with employees serving as online brand ambassadors. Employee dissatisfaction, is related to the negative effect of employee SM social usage on workplace socio-emotional support, leading to neutral employee eWOM.

In addition, the findings identify two critical factors influencing the examined relationship, namely the age of SM users and the quality of face-to-face employee relationships at work, which are of particular relevance. It was asserted that the younger generation is eager to create new connections online and to enhance those it already has. Also, several participants mentioned the importance of the quality of face-to-face connections at work, saying that it influences how much employee use of SM affects workplace ties. For instance, SM allows them to more readily provide and receive online socio-emotional support from colleagues.

Overall, the research's findings offer important theoretical and practical insights to both academics and practitioners. In terms of scholarly contribution to knowledge, the empirically tested framework outlines the favorable outcomes related to employee use of SM and discovers new correlations between the contexts of human resources management and marketing, with wider and more concrete business context benefits. It lays the foundation for generating both internal and external organizational benefits. The former (internal organizational advantages) are associated with the improvement of employee relationships and the rise in job satisfaction. In relation to the latter (external), the final framework suggests that employee SM usage may act as a "driving" for positive employee eWOM.

Keywords: social media, workplace social capital, employee social support, employee emotional support, workplace bonding ties, employee satisfaction, employee dissatisfaction, electronic employee word-of-mouth, employee ambassadorship, hospitality industry.

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INTERNATIONALIZATION OF SMALL AND MEDIUM-SIZED FAMILY BUSINESSES: NEW INSIGHTS FOR THE FUTURE AGENDA

Salvatore, Fiorella Pia¹; Milone, Michele¹; Campobasso, Francesco²

¹Department of Economics, University of Foggia, Foggia, Italy

²Department of Economics and Finance, University of Bari, Bari, Italy

ABSTRACT

The main aim of the paper is to understand the influence of the family on the level of propensity for internationalization recognized as a growth driver. Specifically, the study aims to recognize what are the current gaps in the state of art to be filled in order to enrich the knowledge about the internationalization of Italian family SMEs. The data refer to a representative sample of 240 responses from Italian family SMEs operating in various sectors of the economic system. The ongoing data collection is transversal and it was analyzed with a qualitative and descriptive approach. In addition to having analyzed the main characteristics of the business, the other sections investigated were internal and external business relationship; international network contract; female entrepreneurship. Both managerial and policy implication emerge. Family businesses should consider accepting external equity shareholders and should better involve successors in the business. Appropriate incentives should be prepared to develop the foundations of an international strategy capable of both protecting the family structure and promoting the economic development of the production of Italian family SMEs abroad.

INTRODUCTION

Family businesses are widespread in Italy. From a theoretical point of view, the scientific literature on the topic shows how the typical organizational model of the family firm is especially suited to small or medium-sized economic realities. The reality has highlighted how the family business survives and develops both reaching considerable dimensions or even taking the form of multinational conglomerates capable of controlling entire sectors (Baschieri, 2014).

Family businesses traditionally act in local domestic markets but are pushed to internationalize in order to survive in a market that is becoming increasingly competitive on a global level (King *et al.*, 2022). The internationalization of family businesses, as emerged from the literature, differs from that of businesses with different ownership structures (Gallo and Pont, 1996; Bell *et al.*, 2004; Alayo *et al.*, 2022). Therefore, it is necessary to see family businesses as separate entities to identify further elements of specificity in the context of internationalization.

The internationalization of family businesses feeds a significant research field in the economic context. The publication of the first articles on the internationalization of family businesses dates back to over 20 years ago. These studies remain milestones of internationalization literature, which is why it is always suitable to study the phenomenon starting from the state of the art. Today, however, it is necessary to update the literature on the topic by making assessments on the international context of the present's family businesses, as well as identifying suggestions for the future research agenda (Magrelli *et al.*, 2022; Bannò and Pisano, 2017).

In this study, the initial answers obtained from a widespread survey among small and medium-sized family businesses located in all Italian regions will be analyzed. This survey aims to respond to the following research question: what are the current gaps in the state of art to be filled in order to enrich the knowledge about the internationalization of Italian family SMEs? Through an initial descriptive analysis of the answers given to the survey (in progress), interpretations on the issue of internationalization of family businesses will be showed.

METHODOLOGY

With the aim of detecting how and how much family SMEs make use of internationalization processes, a survey was carried out through a questionnaire consisting of 40 multiple choice questions. Google Forms was used for sharing the questionnaire. Data collection began in April 2022 and is currently underway. To date, 240 responses have been received from Italian family SMEs operating in various sectors of the economic system (sectors analyzed: Agri-food; Commercial; Catering; Industrial; Services; Tourism; Construction). The sections of the questionnaire are: (1) characteristics of the business; (2) internal business relationships; (3) external business relationships; (4) international network contract; (5) female entrepreneurship. The data collected in the study are of a transversal type and were analyzed with a qualitative and descriptive approach.

RESULTS

In the first investigated section, respondents were asked to specify the Italian region in which the enterprise is located in order to cluster the sample by geographical area. The regions with the highest number of respondents were those of Northern Italy: Trentino-Alto Adige, Piedmont, Lombardy, and Valle d'Aosta stand out.

In the next section relating to internal enterprise relationships, the respondents showed that they have a deeper knowledge of the characteristics of family management rather than non-family management and of how much family businesses need to analyze the governance and managerial aspects in order to influence their own internationalization processes. The entrepreneurs of family businesses emphasize

the importance of a greater presence of family ownership in the internal management structure that can function as a moderating element of the management initiatives of external managers. They are initiatives aimed, very often, at the centralization of management power and the lack of involvement of the owners of the family business (Sarbah and Xiao, 2015).

In the third section, the external environment in which enterprises relate has been investigated. Several entrepreneurs replied that they are following important European rather than international economic initiatives. In only one case, there was an external interest in some emerging African countries, in particular Morocco. In general, it emerged that a greater presence of the family individuals within the management structure of external enterprises relationships, leads to a general improvement in business performance measured by the increase in profitability obtained on the internationalization projects followed.

In the fourth section, membership in the networks was investigated. In most cases, the belonging of family businesses to networks is influenced by domestic development prospects and the risk of avoiding direct approach strategies (Ward, 2016; Schumacher, 2021). The managers of family SMEs have been identified as subjects who are inclined to perform unplanned actions in the networks, but which respond exclusively to the standards imposed by the network.

In the last section on female entrepreneurship, a profiling of female leadership emerged. Three diverse types of female business profiles are: Invisible women, they have no legal role or pay, they support the entrepreneur and take care of the family. Nominee women, they have only a formal role in the business and receive low remuneration only for fiscal convenience. Women co-entrepreneurs, have a formal and substantial role but are forced to stay in the shadows and give up leadership.

CONCLUSIONS

On the basis of the results obtained so far regarding the gaps identification in the internationalization of Italian family SMEs and from the analysis of the existing literature on the global dimension of family businesses, it can be stated that research on internationalization always remains undermined and highly conditioned by one element: the lack of a clear harmonized definition of family business (Cano-Rubio *et al.*, 2017; Gavana *et al.*, 2020, Cerqueira and Meneses, 2021). The conceptual range is broad, ranging from simple definitions based on perception, to more complex ones about variables such as ownership, management, family involvement in management, business continuity (De Massis *et al.*, 2018). Unfortunately, numerous variables lead to numerous and different results which are difficult to summarize in a single framework for defining both the very construct of a family business and the internationalization process that interests it. Therefore, it is essential that in the future the efforts of researchers and scholars focus both on the formulation of a standardized definition of family business,

and on the identification of standardized elements that lead to a safe start of the internationalization process as a driver of business growth.

Keywords: family business; internationalization; ownership; governance.

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ESG SCORES' DIVERSITY AS A GREENWASHING PERCEPTION

Salvi, Antonio; Martielli, Francesco

Department of Management, University of Turin, Italy

ABSTRACT

'Sustainability: doing good or sounding good?'. The growing interest of stakeholders in non-financial activities and performance of a company (Cornell & Shapiro, 1987; Cornell & Shapiro, 2020), require to find additional non-quantitative information to determine the drivers and proxies of the company value. As a result, the triple dimension of sustainability, environment, social, and governance (ESG), are increasingly involved in corporate strategies and intellectual debate in the last years (Fatemi et al., 2015). In this context became necessary to consider the measurement of value in a broader sense, a concept not widely shared in the past because the output is often intangible and the variables that generate this type of value are complex to identify and measure (Porter & Kramer, 2011). The innovative attention to sustainability policies, coupled with an ever-widening acceptance of sustainable investments, has shown the need to measure such non-financial performance through meaningful and shareable systems.

According to literature, sustainability represented by the non-financial performance, if pursued and assessed exactly and meticulously, implies changes in financial performance and consequently in corporate value and its estimation, because it introduces new variables that must be considered in the economic evaluation of the organization and its business (Eccles et al., 2014; Yu et al., 2018; Dalal & Thaker, 2019; Cornell & Damodaran, 2020). Pursuing goals and implementing sustainable activities can generate value, a value convenient for the management of business activities in the long term. However, we still know little of whether ESG performance and ESG disclosure impact on firm value, through proxies and drivers of the value, and how. This work tries to fill this gap, and its aim is to bring out the impact of ESG performance score and ESG disclosure score on firm value and whether the relationship between the two score, i.e. if the difference in the two sustainability scores stems from any greenwashing practices.

More specifically, we assume that the impact of sustainable practice on firm value is generally positive and that there are different effects on firm value from ESG disclosure score and ESG performance score. To test the hypotheses, we collected data from 572 listed companies in Europe operating in different utilities, manufacturing, and services sectors for a time frame of 10 financial years (2011-2020), and we performed two stages least squares regression analysis with instrumental variables (IV-2SLS). The methodology was used to reduce the endogeneity caused by the heterogeneity of the sample used (panel data) and to limit the endogeneity due to the simultaneity between firm value and

ESG factors, by fixing the direction of investigation (instrumental variables), El Ghouli et al. (2011). Further, in order to validate the results obtained from the main econometric model (IV-2SLS), the robustness of the model is checked by applying Pooled Ordinary Least Squares (POLS) regression analysis.

Overall, the study aims to put forward the main following theoretical implications, contributing: to the literature on sustainability joint in ESG factors, providing empirical evidence on the positive relationship between ESG score and firm value; Second by shedding light on the difference in ESG scores, bringing out a magnitude difference between disclosure score and performance score due to information asymmetry and possible greenwashing practices.

The preliminary results obtained showed that the simultaneous study of the two ways of considering ESG practices, allows us to observe that ESG disclosure scores have a greater impact on firm value than ESG performance scores, boasting a higher magnitude. This supports the hypothesis since the effects of both ESG scores on firm value are almost identical, therefore with different magnitudes. In this regard, if the level of disclosure overshadows actual performance so significantly, the results raise the question of whether sustainability standards present performance fairly to satisfy the needs of both shareholders and stakeholders in terms of reliable, unbiased and useful information.

These results allow us to put forward the following theoretical implications. First, the study contributes to the literature on ESG practices, greenwashing, and stakeholder theory (Freeman, 1984; Gutsche et al., 2017; Zhang, 2022), shedding light on the concept of greenwashing in the field of ESG and providing empirical evidence on the thesis that managers can attempt an opportunistic use of sustainability disclosure (in terms of ESG) to report good news while curbing bad news, and those market participants find it difficult to process sustainability information. The literature has neglected issue regarding the combine effect of ESG performance on firm value and ESG disclosure on firm value. As a result, the study advances our knowledge on the side of ESG metrics and their effects on firm value, suggesting the positive impact of both metrics but with different relevance.

From a practical point of view, the growing interest in a company's non-financial activities and performance, suggests a growing need to find additional non-quantitative information to determine the drivers and proxies at the basis of company evaluation.

Keywords: ESG performance, ESG disclosure, firm value, greenwashing, stakeholder theory

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BENEFIT CORPORATIONS AND CERTIFIED B CORPORATIONS. DRIVING FACTORS AND BARRIERS

Santoro, Gabriele¹; Zabarino, Antonella²; Benedetto, Claudio²; Albertino, Celeste²

¹Department of Management, University of Turin, Turin, Italy

²Progesia s.r.l.s., consulting firm, Turin, Italy

ABSTRACT

Interest in sustainability and corporate social responsibility (CSR) issues has increased considerably in recent years, partly as a result of scandals and concerns from governments and industry experts (Santoro et al., 2019; Chatterjee et al., 2022). As a result, the Sustainable Development Goals (SDGs), upon which the United Nations (UN) agreed in 2015, propose a global plan of action for sustainable development. In this context, more and more companies are adapting their business models to be more sustainable and to avoid negative impacts on the environment and people (Bresciani et al., 2016; Franceschelli et al., 2018). In addition, more emphasis is being placed on reporting non-financial results as a form of communication to all stakeholders, to increase transparency (Turzo et al., 2022). This is done to inform external stakeholders of the environmental and social value created by the company while pursuing its economic goals.

In this scenario, some organizations take a step further and become hybrid firms, in the form of Benefit and/or B corporation (Nigri et al., 2020). Benefit corporations and Certified B Corporations are often confused. They share much in common and are complementary, but have a few important differences (Kirst et al., 2021). Benefit corporations and Certified B Corporations are both leaders of a global movement to use business as a force for good. Both meet higher standards of accountability and transparency. Both create the opportunity to unlock the human potential and creativity to use the power of business for the higher purpose of solving society's most challenging problems. However, they are not the same thing. A "Benefit Corporation" is a type of legally recognised form that a company can take, while a "B Corp" is an official certification issued by B Lab through the measurement of certain performances. Hence, a firm can be a Benefit Corporation without having the certification or it can have the B Lab certification without having to take the legal form of a Benefit Corporation. However, this is not entirely true in Italy, which represents thus a particular and relevant context of analysis. In fact, in Italy, certified B Corporations are required within a few (2-3) years of certification to become Benefit Corporation in order to maintain the certification.

As this is an emerging topic, it has only recently begun to be studied by the scientific literature. The initial empirical evidence has shown the benefits of the B Corp certification. For instance, Paelman et al. (2020) show that B Corp certification positively impacts the turnover growth rates one year pre versus

one-year post certification. Paelman et al. (2021) document a positive effect of B Corp certification on turnover growth and also that this effect increases with the time since certification, implying that certification requires some time for its full effect to become apparent. Nevertheless, there are still many gaps in the literature. For example, small and medium enterprises (SMEs) seem to be excluded from this debate, even though the majority of B Corporations are smaller firms (Kirst et al., 2021). One exception is a qualitative study conducted by Carvalho et al. (2021), which shows that the B Impact Assessment, as part of the certification process, positively influenced the business' mission, practices, and capacities towards sustainability.

As the topic becomes increasingly relevant, there are many research questions of interest to scholars, practitioners and policymakers that deserve an answer. One of them concerns the internal and external motivations and factors that lead an SME to become a Benefit Corporation or to apply for the B Corp certification. Factors such as the internal climate, the well-being of employees, the focus on sustainable products, the presence of a code of ethics, having a focus on ESG can influence this choice. In addition, many small companies may not be aware of these topics and opportunities. On the other hand, external factors such as supplier practices, customer needs, laws and regulations may influence these decisions too.

As a consequence, this paper aims to shed light on the reasons and factors that lead SMEs to become a Benefit Corporation and/or B corp, along with the reasons and factors preventing this change process (barriers). The above mentioned internal and external factors, identified through a literature review process, will be taken into account.

To achieve our goal, the paper adopts a mixed method. First, the qualitative approach in the form of interviews is employed to investigate the factors leading SMEs to become a Benefit Corporation and/or B corp. To this end, interviews with CEOs of Italian SMEs were conducted. Second, the paper adopts a quantitative method to test which internal and external factors impact on the choice of becoming a Benefit Corporation and/or B Corp or not.

In short, the preliminary results show that although many companies in the sample are aware of environmental and social sustainability issues, few companies are interested in getting the B Corp certification and in becoming a Benefit Corporation. The main reason is that it is not a priority of the top management (internal factor). Moreover, many companies do not report social and environmental impacts through dedicated reporting systems.

The paper contributes to the literature on hybrid firms (Haigh et al., 2015), shedding light on the reasons/factors that lead SMEs to undertake a change, adopting the Benefit Corporation and/or B corp model. On the other hand, the paper also sheds light on the factors that represent barriers in this

change process. This also has implications for policymakers, who can then adopt targeted incentives to stimulate change towards the adoption of sustainable certifications or models.

Keywords: benefit corporation, B corp, sustainability, SMEs.

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A COMPARISON OF THE ECONOMIC IMPACT OF COVID-19 ON FORTY ADVANCED ECONOMIES, 2020 AND 2021

Schein, Andrew

Netanya Academic College, Netanya, Israel

ABSTRACT

By early 2020, Covid-19 had begun to wreak havoc on many countries throughout the world. While its most horrible effect was on the health of millions of people, it also caused significant economic damage to many countries in the world in 2020. This damage was mainly, but not exclusively, due to people being sick and being unable to work, people stopping to work, to travel and to go out socially for fear of catching the virus, and the effects of lockdowns imposed by governments to stop the spread of the virus. In 2021, partially due to the availability of vaccinations to protect people from corona, many economies rebounded. In this paper, we will attempt to examine and understand the total effect of Covid-19 on forty advanced economies for 2020 and 2021.

Our measure of the economic impact of Covid-19 is the changes in the Gross Domestic Product (GDP) of the various countries. In April 2022, the IMF published its world economic outlook, and this report includes a data base with economic data for 196 countries/ areas. Within this large data set, the IMF divides the countries into two large groups, the advanced economies, forty countries/ areas, and the emerging market and developing economies, 156 countries/ areas. In this paper we will focus on the changes in the GDP of the forty advanced economies as grouped by the IMF. The IMF provides the percentage change in GDP for each of the countries for 2020 and 2021, but it does not provide the total effect of the change in GDP for both years together. However, the IMF provides the actual GDP data in constant prices for each country from 2019 through 2021, and then one can calculate the annual growth rates for the two-year period of 2020 and 2021.

According to the IMF data, in 2020, out of this group of forty countries/ areas, there were only two countries, Ireland and Taiwan, who had a positive increase in GDP in 2020, while in 2021, all of the forty countries/ areas had increases in their GDP.

An examination of the total effect of corona on the countries' GDP for both 2020 and 2021, presents a different picture of the economic effect of Covid-19 than the one-year percentage changes. With this perspective, only 22 of the forty countries/ areas had economic growth for both years combined. This means that while the one-year percentage changes indicate that all forty economies rebounded from the effects of corona in 2021, in eighteen countries, the rebound was limited that even in the end of 2021 the economies of these areas were still feeling the negative economic effects of corona.

In addition, we can also compare the annual growth rates for the period 2020 and 2021 with the growth rates of each country in 2019 prior to corona. Of the forty countries/ areas, there were only three countries, Ireland, Singapore and Taiwan, whose annual growth rates of GDP for the combined years of 2020 and 2021 were higher than their growth rates in 2019. Of the remaining fifteen countries whose annual growth rates were positive for the combined period of 2020 and 2021, still these rates were less than the one-year percentage change in the country's GDP in 2019. This result indicates that even though these economies appear to have rebounded from Covid-19 in 2021, corona still had a negative effect on the economy overall since it is very likely, based on the 2019 data, that these economies would have expanded more in 2020 and 2021 had there not been corona.

In the remainder of the paper, we will examine the differences in the growth rates of the forty countries, and we will suggest reasons why some countries were more harmed from corona than other countries.

Keywords: Recessions, Economic downturns, Economic growth, Pandemic economics.

STRATEGIES FOR WOMEN IN BUSINESS

Schipani, Cindy¹; Dworkin, Terry²

¹Business Law, Stephen M. Ross School of Business, University of Michigan, Ann Arbor, USA

²School of Law, Seattle University, Seattle, USA

ABSTRACT

It makes little business sense not to have greater female representation in positions of power in business. Studies over many years indicate that companies benefit in several ways by having a diverse board. For example, a study of Fortune 500 Companies found that having women on the board was associated with significantly higher return on investment capital and return on sales (Joy et al., 2007). Another study found that among Fortune 500 companies, firms with diverse boards had greater return on assets, than those with male-only boards (Lagerberg, 2015). A diverse board may signal flexibility, creative thought, and open-mindedness, among other benefits (Wilson et al., 2013).

Many countries in Europe were quick to act on such information and mandated female representation many years ago (Binder, et al., 2019). In the United States, progress has been left to the companies, although there are pressures from various investment sectors to increase diversity, with beneficial effects (Lim, 2021). In the prior decade, from 2011 to 2017, the proportion of companies with at least 20% female board members rose from 29 % to over half (2020 Women on Boards, 2018). These numbers, however, are not close to parity.

Yet, statistics show that the lack of qualified women on corporate boards is not due to a lack of supply. According to the U.S. Department of Labor, as of 2020, women occupied 51.7% of management, professional, and related occupations (U.S. Dept. of Labor, 2020). Women represent nearly half or more of incoming medical (Searing, 2019) and law students (Olsen 2016) and receive more than half of all doctorate degrees (Institute of Education Services, 2018). According to the *Condition of Education 2020 Report*, women earned 48% of all master's degrees in business during the 2017-2018 academic year (National Center for Education Statistics, 2020).

This begs the question – how do qualified women prepare themselves for selection for positions of power in corporations. This manuscript proposes that women seeking positions of corporate leadership draw on some of the factors of influence analyzed in the work of Robert Cialdini (Cialdini, 2008, 2016). The factors identified in Cialdini's works are authority, reciprocity, consensus/social proof, liking, scarcity, and unity. That is, Cialdini finds that it is human nature to trust people who we believe have authority and expertise, to wish to reciprocate when we have received help, to support an action when we see engagement of others, to like those who are similar to ourselves, to desire that which we perceive to be rare, and to support those with whom we share some

identity. This manuscript argues that these factors may be useful as strategies for women who wish to influence their selection for positions of power in business.

Keywords: gender diversity in business, corporate governance, influence, management, corporate boards

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THE USE OF BEHAVIOUR CHANGE TECHNIQUES IN PROMOTING USER ENGAGEMENT OF MENTAL HEALTH APPS

Scott, Tamsin¹; Scott, Peter²

¹Faculty of Business and Law, Manchester Metropolitan University, (MMU), Manchester, United Kingdom

²Faculty of Business and Law, Liverpool John Moores University, (LJMU), Liverpool, United Kingdom

INTRODUCTION

Mental illness is a significant, global health concern. In the United Kingdom (U.K.), each year, one in every four adults experience at least one diagnosable mental health condition (Mental Health Taskforce, 2016). Mental health apps have attracted worldwide interest, investment and research due to their potential to increase access to care and to provide evidence-based interventions (Torous et al, 2020). According to Deloitte Global spending on mental health apps across the world will approach US\$500 million in 2022. That figure assumes an annual growth rate of 20%, a conservative figure given that such apps enjoyed a 32% growth rate between the tenth month of 2019 and the tenth month of 2020 (deloitte.com, 2021).

Research suggests that mental health apps can be effective in reducing mental health conditions but high rates of user attrition are a common problem (Alqahtani & Orji, 2020). Despite this, there has been limited research in the field around the issue of user engagement (Taki et al, 2017).

RESEARCH AIM

The proposed research aims to explore the practices, perceptions and experiences of marketers who are responsible for user engagement of mental health apps.

RESEARCH OBJECTIVES

1. To explore the current practices in relation to the usage of BCTs in mental health apps to encourage user engagement.

Research Question (RQ): What represents current practice in relation to the usage of BCTs in mental health apps to encourage user engagement?

2. To explicate the perceptions, knowledge and understanding of marketers surrounding the use of BCTs in mental health apps to encourage user engagement.

RQ: What are the perceptions, knowledge and understanding surrounding the use of BCTs in mental health apps to encourage user engagement?

3. To explore the experiences of organisations in the use of BCTs in mental health apps to encourage user engagement.

RQ: What has and not worked for the organisation in relation to the usage of BCTs in mental health apps to encourage user engagement?

The proposed research will have important implications for commercial organisations by advancing the current literature around consumer behaviour in the mental health app market, especially around the use of behaviour change techniques in promoting user engagement.

LITERATURE REVIEW

Mental illness is one of the most serious social, medical and economic challenges faced today (Casados, 2017). Digital health interventions may facilitate greater reach and as a result offer potential for positive public health impacts (Moller et al, 2017). There has been rapid growth in the usage of apps designed to facilitate health behaviour change (Huang & Ren, 2020). Mental health apps such as SilverCloud Health, Sleepio, Daylight, Happify, Sanvello, Calm and Talkspace aim to improve mental health and wellbeing through mental health recovery and the promotion of certain behaviours. Mental health apps are widely accessible and can offer a cost-effective solution for those with mental illnesses that overcome some of the limitations of in-person health management (Hwang et al, 2021).

Alqahtani et al (2019) highlight that despite evidence suggesting that mental health apps can be effective in reducing mental health issues, high rates of user attrition are a big challenge for mental health apps. Perhaps unsurprisingly, research suggests that user non-adherence reduces the effectiveness of interventions offered by apps that support health objectives (Mak et al, 2018). Only a small amount of research in this field has addressed the conceptualisation and measurement of user engagement (Taki et al, 2017). Research around retention is necessary for the growth of the field and industry-academic partnerships may present a means of accelerating research (Torous et al, 2020).

A behaviour change technique (BCT) is a systematic procedure that acts as an active component in an intervention that is designed to change behaviour (Michie & Johnston, 2013). Using a framework such as Fogg's behavioural model, could help to identify tactics to maximise user engagement (Bakker et al, 2016). Behaviour change interventions are "coordinated sets of activities designed to change specified behaviour patterns" (Michie et al, 2013, p.1). Behavioural interventions offer the potential to transform

health populations, and in many cases at low cost (Michie et al, 2011). Despite this, there is a lack of theory-based behaviour change techniques in apps designed to modify health (Antezana et al., 2020). The literature review highlights that the use of BCTs in mental health apps is an area of emerging importance but there seems to be little research into the practices, perceptions and experiences of practitioners, most notably around the theme of user engagement. A study exploring these aspects therefore seems to be justifiable as a worthy research area.

RESEARCH METHODS

It is anticipated that a mixed methods approach will be used for the proposed study. To gain an understanding of the practices, perceptions and experiences of organisations in using BCTs to encourage user engagement of mental health apps, qualitative research will be conducted through 10-12 in-depth interviews, or until saturation occurs and no new themes are emerging. Interview questions will be designed to provide the data required to answer the research questions and to fulfil the research aims and objectives. Prior to conducting interviews, a pilot study will be conducted to establish any interview questions that may require modifications.

The sample for the interviews will be marketers who work for mental health apps who are involved in user engagement as part of their role. Job titles may include Marketing Director, Vice President of Marketing and Head of Marketing.

Quantitative research methods will also be used as part of the study through the analysis of first party user data collected by the organisations using tools such as Google Analytics. User behaviour data such as the number of app downloads, the number of active app users, average visit time, average screen views per visit, app session intervals and app event tracking will be analysed to gain an understanding of user behaviour.

The use of mixed methods will allow for triangulation between responses from in-depth interviews and the empirical evidence acquired through first party user data.

ANTICIPATED FINDINGS, CONTRIBUTIONS AND ORIGINALITY

It is anticipated that the research has the potential to inform better patient outcomes within the \$500 million global mental health app industry (deloitte.com, 2021). It is further anticipated that the study will generate empirical evidence to support the use of behavioural change techniques in mental health apps and contribute to the extant literature relating to the field. The study will respond to the calls for further research into this subject area by Antezana et al, 2020, Alqahtani et al (2019) and Hwang, Ha

and Kim, (2021). Additional contributions may include implications for app development in broader terms especially in relation to behaviour change.

Keywords: Behaviour change techniques (BCTs), User engagement, Mental health applications

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THE ROLE OF THE AFFINITY COUNTRY IN THE CONTEXT OF IMAGE CRISES

Serrano-Arcos, María del Mar; Sánchez-Fernández, Raquel; Pérez-Mesa, Juan Carlos

Economics and Business Department, University of Almería, UAL, Almería, Spain

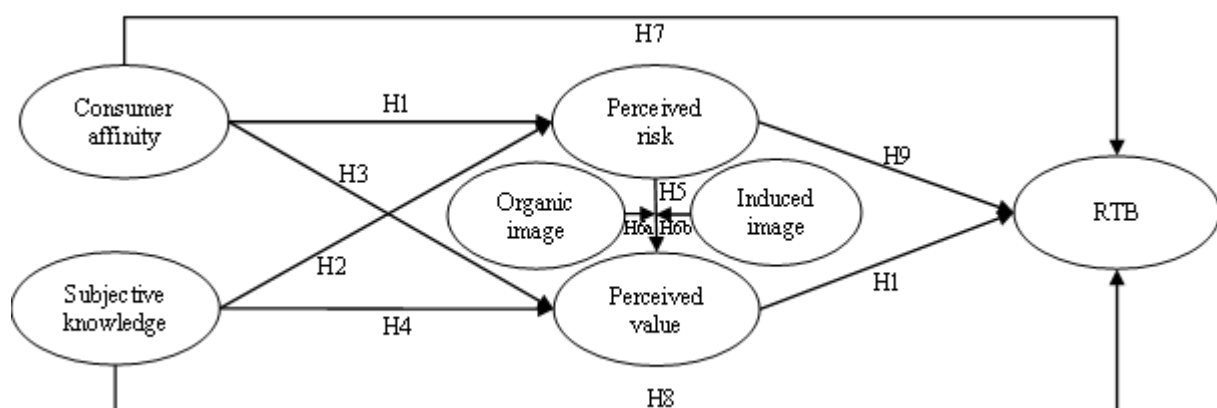
ABSTRACT

Today's increasingly globalised and digitally interconnected marketplace causes people around the world to be bombarded with information about products and brands from other countries. Nevertheless, it should be noted, is all the information that individuals receive contrasted and true? Surprisingly, the answer on many occasions is negative and, as a result, the perception of a product-country is weakened when it is targeted by various media. The information provided by the media (e.g., news, articles, social networks, etc.), also known as an organic image, may greatly affect the perception and consumers' buying behaviour in the presence of a negative event in terms of economic, social or environmental impact (e.g., paying greater attention to country-of-origin (COO) information when making product choices and avoiding products from countries with a negative image). However, consumers are also exposed to the (positive) information provided by organizations and institutions from a specific country and/or sector, which is named induced image. At this point, an important question arises: To what extent could organizations and institutions that act quickly and effectively in the face of negative information about their origin and products mitigate this negative impact and prevent it from leading to an image crisis?

In many cases, countries and their productive systems are exposed to unexpected and unpredictable negative events (e.g., environmental pollution, safety and quality problems, etc.) that often lead to image crises and require a proactive response from organizations. In this sense, it is necessary to analyse what other factors could positively influence or mitigate such an effect. Therefore, this research explores a recent and less studied concept, namely 'affinity country', which is referred to the development of a positive emotional feeling towards a country and, therefore, towards its products and services (according to macro and micro drivers, such as cultural similarity, climate, people, food, etc.) (Oberecker et al., 2008). Affinity country (e.g., Ercis and Celik, 2019; Fazli-Salehi et al., 2021) together with other relevant variables such as perceived value and perceived risk can affect consumer purchasing decisions (e.g., Rehman et al., 2020; Zarantonello et al., 2020). In addition, an affinity country could be a key element to counteract ethnocentric barriers (Oberecker and Diamantopoulos, 2011) and negative image (Pérez-Mesa et al., 2019), but also mitigate the negative effects of such 'organic' creation events (that is, these incidents or events, derived from real or fake news, can generate image crises of food origin and also related to environmental, social, and economic issues).

This is especially relevant since these negative events may result in the phenomenon of anti-consumption and, more concretely, in boycotts or reluctance to buy (RTB) specific foreign products. The impact of an image crisis upon demand, as a consequence of negative information and news, has become an increasingly relevant issue within business management, but the number of studies that have analysed this phenomenon is very low. In particular, in the food industry, image crises are caused by problems in the economic viability environment, social welfare, environmental impact, and food safety. For example, in the case of the horticultural sector, Spain has suffered several image crises in terms of social, environmental, and food safety issues. Most of these image crises eventually proved not to be based on truth and led to lower consumer demand and rejection of such products (for example, in the case of the 'E-Coli crisis' and 'isofenphos-methyl crisis' in the horticultural products from Spain). Accordingly, this research contributes to the literature by analysing how consumers' subjective image of image crises and consumer affinity can influence their perception of risk and value. This research analyses how perceived risk influences consumers' perceived value. In addition, this paper studies how these variables influence the organic image (information received through the media) and the induced image (that provided by organizations and institutions). Affinity country is included in the conceptual model, scarcely researched in the literature, to explain whether together with effective information management by organizations and institutions can help to mitigate consumer's RTB. Figure 1 presents a summary of the resulting conceptual framework, which includes consumer affinity, subjective knowledge about image crises, perceived risk, and perceived value, as well as their potential influence on the prevalence of consumer RTB in the product-country affected. This research also includes the information sources by organic and induced images as moderators between perceived risk and perceived value.

Figure 1. Conceptual model and hypotheses.



For this purpose, the Spanish horticultural sector is the setting selected, since it has been recognised as one of the largest suppliers of horticultural products in Europe and has been subject to several events/incidents in the last years. Another reason to justify the choice of this setting is that in previous

studies (e.g., Oberecker *et al.*, 2008) about countries of affinity, Spain has been selected as an affinity country for the food products product category (particularly, fruits and vegetables). In particular, the Spanish horticultural sector has been affected by recurring crises arising from two main reasons (Pérez-Mesa *et al.*, 2019): the ineffective management of difficulties common to this sector, such as (i) the excessive use of fertilisers and pesticides, resulting in low-quality production and consumption, (ii) the environmental degradation and (iii) the bad social conditions for immigrant workers (e.g., Juntti and Downward, 2017); and erroneous accusations spread through the mass media blaming food safety practices for environmental and social risks, originated in other countries. In this sense, Germany has caused the most important 'organic' image crises in this sector (Pérez-Mesa *et al.*, 2019). For this purpose, we use causal research (PLS-SEM) through a survey with a sample of German consumers.

This study provides a conceptual model that sheds light on the influence of affinity and subjective knowledge on consumer perceptions and (non) behavioural intentions. In this sense, consumer affinity towards a particular foreign country is expected to be a key variable that contributes significantly to reducing RTB products from that country. In turn, feelings of affinity, together with a perceived value, are expected to mitigate the effect of subjective knowledge on image crises by the organic image on developing consumer RTB. This study also reveals that both consumer affinity and subjective knowledge significantly influence consumer perception (risk and value) of foreign products. In addition, this research explores organic and induced images as information sources that have countervailing influences on the effect of perceived risk on perceived value in different ways. Consequently, private companies and public institutions of a particular COO should actively enhance consumer affinity towards their country to avoid rejection in consumer country-based decisions. This research seeks to enhance the importance of the information sources from organizations and institutions (i.e., suppliers, cooperatives, public institutions, governments, etc.) as they can help to decrease the effect of consumers' perceived risk and RTB in the context of image crises. Furthermore, the importance for the institutions to offer quick and efficient management against the fake news generated by organic information sources is highlighted.

Keywords: Consumer affinity, induced image, organic image, reluctance to buy, subjective knowledge, perceived value, perceived risk, image crises.

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IS THERE ANY WORK-LIFE BALANCE FOR FEMALE EMPLOYEES WORKING FROM HOME IN THE ERA OF COVID-19 PANDEMIC? THE ROLE OF REGULATORY FOCUS AS A MEDIATOR.

Siachou, Evangelia¹; Famelis, Iosif²

¹Dept. of Economics, National and Kapodistrian University of Athens (NKUA), Athens, Greece

²Dept. of Economics, University of Athens MBA, National and Kapodistrian University of Athens (NKUA), Athens, Greece

ABSTRACT

1. INTRODUCTION AND GENERAL SCOPE

Since, March 11th 2020 that COVID-19 was officially declared by the World Health Organization (WHO) as a global pandemic (Min et al., 2021), the shift from the traditional employment to the mode of teleworking was found to be the exclusively one solution for organizations to ensure employees' health and safety. Since then, governments across the world enacted teleworking as an official employment status based on extensive legal frameworks and set it periodically as a mandatory employment modality following the pandemic's wave (Kramer and Kramer, 2020).

Without underestimating the merits of work-from-home as a 'family-friendly option' (Troup and Rose, 2012: 472), this study attempts to address the current research gaps as well as expand the unique emerging line of research on work-from-home during the pandemic. In so doing, it sheds light on gender diversities by exploring effects of work-form-home on female employees in economic sector in Greece on their work-life-balance during the pandemic. This time, also, work-from-home is not a personal choice of female employees to offset work and domestic tasks; rather it is a compulsory work modality that was imposed by the pandemic. To further advance our understanding of the relationship between work-from-home and work-life-balance of female employees we drawn of Higgins (1997) affective aspect and propose regulatory focus as an underline mechanism in this relationship.

To this end, we developed and tested the mediating effect of regulatory focus on the relationship between work-from-home and work-life balance of female employees such that the promotion focus promotes the work-life-balance; while, the prevention focus suppresses the work-life balance.

2. METHODS AND PROCEDURES

Data for this study were collected from 287 female employees in various organizations operating in the Greek financial sector and worked from home in the era of pandemic. A pilot study was primarily conducted to appropriately modify existing items, which were found difficult for the study participants to understand/realize their true meaning. A web-based survey tool was finally developed and sent to study participants during January-March 2022.

2.1. Measures

Variables were measured using both a seven- and a five-point Likert scale ranging from (1) strongly disagree to (5 or 7) strongly agree. All measures consisted of self-reported measures. All scales reliabilities were acceptable as they exceeded the value (.70) that was recommended by Nunnally et al. (1967).

Work-from-home was assessed using the ten-items scale developed by Neufeld and Fang (2005), which measures individual, social and situational factors affecting work-from-home. A sample item is *“Which tasks have you been able to do more productively from home?”* *Work-life-balance* was measured using the nine-item scale developed by Clark. (2001). A sample item is *“My job makes my personal life difficult”*. *Regulatory focus* was assessed using the general regulatory focus eighteen-items scale developed by Lockwood et al. (2002). A sample item for promotion focus is *“In general, I am focused on preventing negative events in my life”*. A sample item for prevention focus is *“I often think about the person I am afraid I might become in the future”*.

Following the tenets of the existing literature (e.g., DiRenzo et al., 2011) we also controlled for ten control variables which, then, are classified as demographic-related variables, i.e., age; marital status; family type and dependent parties and work-intensification-related variables, i.e., education; work experience; tenure; employment status; hierarchical level and type of employment.

2.2. Strategy of data analysis and outcomes

Following new trends in mediation analysis (e.g., Hayes and Scharkow, 2013) the study hypotheses were examined using the PROCESS macros for SPSS (Hayes et al., 2017). This analysis supports the bootstrapping technique (5000 bootstrap samples with 95% confidence intervals), which does not assume the normality of the distribution of the sample (Preacher and Hayes, 2004) and has “more power” in relatively small samples (Shrout and Bolger, 2002, p. 429).

Results supported the regulatory focus as a mediator in the relationship between work-from-home and work-life-balance of female employees of economic sector in Greece who teleworked during the pandemic. Namely, female employees may “regulate” their work-from-home when they telework based on either their promotion or prevention foci.

3. STUDY CONTRIBUTIONS

The study adds to the knowledge of the emerging research line on work-from-home during the pandemic and contributes to the literature in the following ways: First, it expands the current literature of the consequences of work-from-home during the pandemic by adding outcomes of a research that was conducted in the Greek economic sector. Second, the study expands the current research on gender diversity at work by investigating the impact of work-from-home for female employees. Therefore, room is left for future research to conduct comparative studies between female and male employees who are teleworked in the economic sector and beyond. Third, the study also advances the role of regulatory focus as an underline mechanism in female employees teleworkers in the era of pandemic. To the best of our knowledge, this is the first study in the emerging line on work-from-home during the pandemic that incorporates regulatory focus to explain how female employees may regulate their work-life-balance.

Keywords: work-from-home; regulatory focus; work-life-balance; female employees, COVID-19; mediation; financial sector

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HOW BLOCKCHAIN TECHNOLOGY GENERATES TRUST-BASED COMPETITIVE ADVANTAGE: THE ROLE OF HUMAN FACTOR AS MODERATOR

Silvestri, Raffaele¹; Adamashvili, Nino¹; Alaimo, Leonardo Salvatore²; Fiore, Mariantonietta¹;

Galati, Antonino³

¹Department of Economics, The University of Foggia, Unifg, Foggia, Italy

²Department of Social Sciences and Economics, Sapienza University of Rome, Uniroma1, Rome, Italy

³Department of Agricultural, Food and Forest Sciences, The University of Palermo, Unipa, Palermo, Country

ABSTRACT

Introduction

Sustainability and the efficiency of agricultural sector is gaining more and more importance worldwide. Current consumers are also strongly interested as in the price and quality of products as well as their impact on the environment and society. Nowadays buyers are more aware of their purchasing decisions, they pay increasing importance towards chosen products and they demand for the detailed information from sellers (Salvatore *et al.*, 2021; Bergstrand, 2022). Therefore, it is an added value for the product if consumers are able to get the information regarding the production process.

Aim

The aim of the research is to analyze the role of Blockchain Technology (BCT) adoption in the small and medium size enterprises (SMEs) in order to reach the greatest transparency, and therefore, consumers' trust-based competitive advantage. Besides, the study highlights the factors affecting on the BCT implementation in SMEs.

Methodology

In order to reach the research goal, besides comprehensive analysis of the literature, the case of Italian winery "Placido Volpone" Ltd is analyzed. It helps to develop the theory from practical examination of the solution by investigating the matter in the ordinary conditions (Adamashvili *et al.*, 2021). The face-to-face and telephone interviews have been held with the founder of the company and sales manager. Open questions and semi-structured interview gave the opportunity to the researcher to ask for clarification of some answers where it was necessary and enter deeper in the details (Vrontis *et al.*, 2016; Galati *et al.*, 2018). Moreover, the additional information has been collected from the company webpage, academic and newspaper articles, as well as from the open access interviews in the social media.

Results and discussion

The research result showed that the adoption of BCT significantly affect on the performance of SMEs

overcoming the main challenges related to the internal and external processes of the company. Precisely, it simplifies data collection, improves utilization of internal resources, makes possible to track the product during distribution or storage temperature along value chain, facilitates storytelling to the consumers and obtains their data for marketing purposes. Additionally, BCT significantly reduces the risk of fraud and alteration of final product, convince buyers in the sustainability and declared quality of product, and gains consumers' trust. The company representatives affirm the enlarged awareness of brand, enhanced trust of consumers in their product and increased ROI after adopting the BCT in the winery, that promises the achievement of sustainable competitive advantage (SCA) on the target market. The business case of "Placido Volpone" Ltd also illustrated that the main factors affecting positively on the BCT adoption in SMEs are relevant knowledge inside the company and the ability to minimize the cost of launching this technology. Here the employees and the organizational culture plays a crucial role in order to spread new knowledge and stimulate innovation adoption.

Conclusion

The study highlights the importance of information availability and transparency for achieving consumers' trust in brand and their loyalty, therefore, for reaching the SCA on the target market. It also underlines the role of BCT adoption in this process and the main factors affecting on its implementation bringing on light a human factor as a moderator. The research results have significant contribution for the theory since, for the best of our knowledge, there is no study investigating the implementation of BCT in SMEs from this view. The study outcomes are also considerable for practitioners in order to improve their internal and external processes.

Keywords: BCT, wine, supply chain, transparency, consumers, trust, SCA, case study.

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VISITOR'S PERCEPTIONS ABOUT UNESCO'S WORLD HERITAGE SITES

Sousa, Ana¹; Rodrigues, Paula²

¹COMEGI (Research Centre in Organizations, Markets and Industrial Management), Porto, Portugal

²Universidade Lusíada, COMEGI (Research Centre in Organizations, Markets and Industrial Management), BRU-IUL (Business Research Unit – Instituto Universitário de Lisboa), Porto, Portugal

ABSTRACT

Countries need to strengthen their identity and foster their image and reputation to be competitive, attract visitors, investments and contribute to global well-being (Dinnie, 2015). Due to the decreasing trade barriers between nations, nation branding theory and practice have developed. Countries can now establish their brand management strategies and techniques to compete globally. A brand defined as “a name with power to influence buyers, that evokes desirable associations and creates saliency, differentiability, intensity and trust attached to these associations” (Kapferer, 2008, p. 11) might be one of the assets able to provide a long-term competitive advantage. As Hakala *et al.* (2011) suggest, the competitiveness of a country might be straightened by promoting its historical elements. It is recognised that heritage brands convey longevity and sustainability, being associated with authenticity, credibility, and perceived value (Wuestefeld *et al.*, 2012, Pecot *et al.*, 2019). Also, brands that own and communicate their heritage can raise their customers' loyalty and lead them to pay higher prices (Dhaliwal *et al.*, 2020).

This study focuses on the importance of a country's cultural heritage, defined as “a composite of the history and the coherence and continuity of the nation's distinguishable characteristics” (Hakala *et al.*, 2011, p. 450), and the recognition of UNESCO's World Heritage brand. Beyond the contribution of cultural heritage sites to a country's identity, they are also important drivers of tourism. There is a paucity of studies on national cultural heritage (Khalil and Nasr, 2021, Hakala *et al.*, 2011, Chauma and Ngwira, 2022, Nobre and Sousa, 2022). This study aims to fill this gap, extends the work developed by King and Halpenny (2014), and assesses the influence of the brand World Heritage (WH) in consumers' intentions to visit sites classified by UNESCO as World Heritage patrimony. Data were collected in 2021, through a self-administrated online questionnaire using a convenience sample. In total, 189 questionnaires were completed. A quantitative methodology was applied, we use the partial least squares (PLS) path analytical technique (Hair *et al.*, 2017) to analyse the data.

We assess the influence of brand trust on individuals' perceptions of World Heritage sites adapting the Delgado-Ballester (2004) scale, the influence of brand authenticity on customer perceived value was assessed the scale of Napoli *et al.* (2014), and the perceptions of World Heritage sites on customer perceived value was assessed by adapting the scale from (King and Halpenny, 2014). Finally, customer perceived value was evaluated with the scale of Wuestefeld *et al.* (2012).

The results allowed us to conclude that visitors' trust in the WH brand has a large and significant effect on individuals' perceptions of WH sites. Another important contribution to explain customer perceived value about WH sites concerns the positive and significant influence of the dimensions of quality commitment and heritage from brand authenticity. Finally, individuals' perceptions about WH sites significantly affect customer perceived value.

Although it is challenging to fully characterise visitors' perceptions about UNESCO's World Heritage Sites, this study helps to understand visitors' general knowledge about the world heritage sites and the frequency of visiting each site. Moreover, we also evaluated the importance that participants attribute to World Heritage classification and its impact on brand trust, authenticity, and customer perceived value, contributing to the advance of theory and offering managerial implications. Future studies should use our research and replicate it with UNESCO's World Heritage intangible patrimony.

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Keywords: World Heritage; Cultural Heritage, UNESCO, Brand Heritage; Brand Authenticity; Brand Trust; Customer Perceived Value

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DESIGN AND BUDGETING OF A SUSTAINABLE PRODUCTS IN THE CONTEXT OF THE CIRCULAR ECONOMY IN THE CONSUMER GOODS INDUSTRY

Steindl, Sebastian; Britzelmaier, Bernd

Business School, Pforzheim University, Germany

ABSTRACT

Sustainability plays an increasingly important role in corporate practice, and not only for ethical reasons. Especially in the consumer goods sector, scarcity of resources can lead to bottlenecks, resulting in planning uncertainties and volatile material prices. By avoiding waste and using recycled materials in a Circular Economy, a shortage of raw materials can be counteracted. Some countries, such as Germany, still lack a nationwide strategy for implementing the Circular Economy approach. Companies must therefore form their own strategies and draw on these. Based on a literature review, some approaches for a strategic implementation of the Circular Economy could be found (Haigh et al., 2021; Weber & Suchtey, 2019; Wilts, 2016; Gandenberger 2021). But these mostly target rather subsequent processes along the value chain, describing the handling of waste products. There are missing concepts and budgeting tools focusing already on the product design to reduce waste potentials already in early stages of product development and gain higher material efficiencies. This is also because the strategic obstacles practitioners must overcome to implement sustainable product designs have not been fully explored. This gap is addressed in the study presented.

In a qualitative research design, 12 semi-structured interviews with companies from the consumer goods industry having showed major activities in sustainability and Circular Economy have been conducted. An insight into strategic obstacles and solutions in the context of the circular product design hence can be obtained from several corporate practice examples. It becomes clear that large companies tend to already foster for recyclability then small ones. Depending on the industry, nothing to little work has been done on product design in terms of circularity to date, although waste avoidance has priority over waste recycling for the companies.

Among all interviewed company sizes, the biggest barriers for circular product designing are consumer expectations, bad infrastructure, and financial pressure. Many companies state that they use recyclable raw materials as far as possible, but do not use any secondary, recycled materials themselves, as they fear reduced customer acceptance of their products. Customers are considered one of the most important stakeholders who can exert a lot of pressure on the consumer goods industry. Additionally, there is a lack of practicable controlling instruments to budget and evaluate the economic impact of a

sustainable product design. The practitioners expressed their need for a combined method to appraise new products regarding sustainability, customer acceptance and economic impact.

Based on these findings, this study contributes to knowledge by presenting the strategic obstacles companies in the consumer goods sector must overcome regarding the implementation of the Circular Economy concept. Furthermore, for configuring a sustainable product, a new tool will be presented that not only focusses on profitability but also considers and evaluates both, customer acceptance and waste avoidance as well as recyclability in early phases of product development. The Target Costing as a consumer-oriented budgeting and strategic decision-making approach will form the basis for this tool. A new budget dimension will be added to evaluate not only the consumers' interests but also the impact on the environment and the general society and how costs shall be allocated to the product. With this model it will be shown how customer oriented, sustainable, and still profitable products can be designed in managerial practice. This enables companies to take a highly impactful step towards the Circular Economy and address one of the biggest barriers for circular product design at the same time.

Keywords: Circular economy, Sustainability controlling, Sustainable product design, Sustainable target costing, sustainable product design

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THE COVID-19 PANDEMIC, HOTEL EMPLOYEES' JOB SECURITY AND INTENTION TO QUIT: THE CASE OF CYPRUS HOSPITALITY INDUSTRY

Stylianou, Christiana^{1,2}; Sakka, Georgia^{1,3}; Theofanous, Giannis¹

¹Business School, UNICAF University, Larnaka, Cyprus

²Department of Hotel and Tourism Management, Cyprus University of Technology, CUT, Limassol, Cyprus

³School of Business, University of Nicosia, UNIC, Nicosia, Cyprus

ABSTRACT

Since the Covid-19 pandemic, the hospitality industry has been experiencing a severe crisis, leading to a sudden decrease in its economic performance and a rise in employee career turnover (Han *et al.*, 2021; Jung, Jung and Yoon, 2021). The pandemic has negatively impacted the hospitality industry's labor market (Radic *et al.*, 2020), and employees' job security was, and still is, uncertain. Most hotel employees are experiencing low commitment and job insecurity due to reduced working hours, limited welfare benefits, and frequent job rotations and shifts (Maneenop and Kotcharin, 2020). Therefore, during a crisis, employees are undeniably proactive in looking for career change opportunities, aiming to work in safer, more reliable, and resilient settings or industries (Saji, 2014; Demirović Bajrami *et al.*, 2021).

The hotel sector was one of the first hit by the Covid-19 pandemic, with a severe decline in employee numbers and a sharp increase in employees on short-term leave (Jung, Jung and Yoon, 2021). According to Richardson (2008), due to the fragmented nature of the hospitality industry, there is a shortage of qualified and talented employees and difficulty in attracting, retaining, and making them feel committed. He further notes that the industry is not well prepared to respond to the future challenges of shortages, and there are gaps in essential skills among hotel employees. Recent studies sought to verify that the hotel sector is significantly vulnerable to shocks such as a pandemic, and many hotels are now suffering in recruiting and retaining qualified employees that can remain committed to the business (Abo-Murad, AL-Khrabsheh and Jamil, 2019; Giousmpasoglou, Marinakou and Zopiatis, 2021).

The idea of risk perception has long been a crucial topic of several studies (Law, 2006; Olya and Han, 2020; Elshaer *et al.*, 2022). Remarkably, perceived risk and its impact on people's reactions and behaviors in the hotel and tourism industries have been extensively studied (Rasheed *et al.*, 2020). Researchers emphasized the possibility of severe occurrences of increased insecurity when working enhances employees' perceptions of risk in hospitality jobs (Shoss, 2017; Al-Ansi, Olya and Han, 2019). Specifically, potential employees are likely to avoid choosing to work in a hotel as they fear the likelihood of extreme incidents or job insecurity (Demirović Bajrami *et al.*, 2021). The theory of job

insecurity states that one may "perceive powerlessness to maintain desired continuity in a threatened job situation" (Greenhalgh and Rosenblatt, 2011, p. 438). Employees experience insecurity once they feel they cannot resist threats concerning their job that are out of their control. As a result, employee commitment suffers from job uncertainty, as seen by diminished intrinsic motivation or a greater intention to quit (Staufenbiel and König, 2010).

Considering the influence of the perceived risk of job insecurity during a crisis, notably the Covid-19 pandemic, this study will examine whether and why hotel employees decide to change careers and find jobs in other industries. The study will also assess the relationship between employee commitment and intention to quit. A quantitative methodological approach based on a survey method will be used to achieve the research objectives with a sample of 500 front-line employees working in four and five-star hotels in Cyprus.

The study will contribute significantly to the existing literature. Firstly, it will highlight the importance of employee retention during and after crises, making the hospitality industry more competitive. Secondly, it will link empirical concepts in understanding employees' intention to quit in the Covid-19 era and identifying practical strategies to increase their commitment. Thirdly, the empirical results will demonstrate the relationship between hotel employees' commitment and intention to quit by providing recommendations to practitioners and industry managers on retaining talented employees.

Keywords: Hotel employees, Hospitality industry, Job security, Covid-19, Employees commitment, Employees turnover, Intention to Quit

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ACTION RESEARCH IN SUSTAINABLE TOURISM: ORIENTATION OF DECISION-MAKERS AND DEVELOPMENT CONDITIONS

Tafuro, Martina; Signori, Paola

University of Verona, Department of Business Administration, Research Assistant, Verona, Italy

ABSTRACT

Minor rural areas rely on local decision-makers to development towards sustainability.

This qualitative study, conducted with an action research approach, aims to help decision-makers of a rural area to convey to an integrated strategy for sustainable development through slow tourism. It highlights four sustainability orientation profiles of decision makers, with different levels of reactivity or proactivity orientation in response to sustainability issues, depicting different personal motivations.

PURPOSE

Minor rural areas often suffer of being a marginalised economy (Briedenhann *et al.*, 2004) and local decision-makers play an important role to drive suitable development conditions. Their personal motivations and orientation to sustainability may influence their actions. The dual purpose of this research is: (1) to contribute to the practical need of local decision-makers to discover the conditions for the sustainable tourism development of a rural destination; (2) to explore the emergent issue of personal orientation towards sustainability (Khizar *et al.*, 2022).

DESIGN, METHODOLOGY, APPROACH

This study adopts a qualitative approach using the action research (AR) methodology (Naslund *et al.*, 2011). This method requires a team of researchers and organisational actors working together, sharing ideas and reflections. In this study, we apply action research in terms of “theory building” and “diagnosis” for two types of contributions (Alfaro-Tanco *et al.*, 2021). The “theory building” phase aims to find an explanation of the specific research question from exploration (Alfaro-Tanco *et al.*, 2021, p. 5). Our RQ is “*How personal motivations affect sustainability orientation and actions for sustainable tourism*”. To practitioners’ contribution approach, AR contributes in describing and analysing a particular issue, in order to identify root causes for the issues at hand (Alfaro-Tanco *et al.*, 2021, p. 5). Our issue is helping a rural destination to identify its development conditions for sustainable tourism. The data collection relies on interviews, video recorded and transcribed, with 18 decision makers of a rural area in Northern Italy (7 policy makers, 9 entrepreneurs and 2 change makers). Four other follow up meetings and conferences engaged local citizens, politicians and family businesses. This small

geographical area is characterised by the preservation of its cultural and natural heritage, but also for the fragmented nature of political, economic and social decisions. Decision-makers are majors of 24 small towns, few entrepreneurs of local businesses, mainly manufacturers and farmers. They want to leverage their local strengths (i.e., nature, typical products and authenticity), and identify slow tourism to lead the entire community moving towards sustainable development (Di Clemente *et al.*, 2015, pp. 23-37). We conducted the data collection and analysis in a team of diverse researchers (2 professors and 2 research assistants) in order to reduce our own bias (Eisenhardt, 1989; Oppermann, 2000). Triangulation approach helps for strengthening the validity of the analysis. Due the fact that AR projects are cyclical (Ballantyne, 2004; Coghlan and Brannick, 2001), our research is divided into several stages:

1. Preliminary meetings to define objectives and research question (3 meetings);
2. Data collection (18 interviews);
3. Follow-up meeting with practitioners (15 participants);
4. Conference to discuss results and review them under new perspective/suggestions (3 conferences with about 40 participants each).

RESULTS

This research offers a dual contribution. From a theoretical perspective, we have coded through Nvivo coding, adopting the GIOIA methodology for analysis and interpretation (2021). It permits to identify four clusters of sustainability orientation individual profiles. These profiles are characterised by different level of reactivity or proactivity orientation in response to the sustainability issue, and show different personal motivations. The table below (Table 1) depicts the results:

Table 1 Sustainability orientation profiles of decision makers in a rural area

Profile name	Motivation	Orientation	% of sample
Soldier	Extrinsic	Reactivity (-/+)	34 %
Self-focused	Absent	Absent	16 %
Explorer	Intrinsic	Proactivity (-)	22 %
Athlete	Intrinsic & Extrinsic	Proactivity (+)	28%

From a practical perspective, these sustainability orientation profiles have been review and discussed, discovering peculiar strengths and weaknesses. The AR diagnosis helped in highlighting some urgent development conditions for sustainable tourism: (a) increasing attention to educated leisure; (b) education for sustainable consumption (i.e., marketing and gentle nudge); (c) stimulation of

sustainable practices together with politicians and entrepreneurs; (d) growth of slow tourism trend; (e) tax relief and funds for investing in sustainability.

IMPLICATIONS

The study recognises both theoretical and practical implication. Theoretically speaking, in response to our RQ, this study highlights four sustainability orientation profiles of decision makers, revealing a variety of personal motivation approaching sustainability in action, based on the proactivity/reactivity that people show in response to sustainability issue.

Moreover, this action research helped managers in profiling and diagnosing their own development conditions. These results, reviewed and largely discussed with participants, are helping decision-makers of this rural area to convey to an integrated strategy for sustainable development through slow tourism. This action research project is still at an early stage, and as such it is not possible to measure the real impact of these different sustainable profiles.

ORIGINALITY/VALUE

The main originalities are: (1) the application of action research design to tourism field, it is quite common mostly in supply-chain area of research; (2) the study of sustainability orientation of decision makers in a rural area.

Keywords: sustainability orientation, development, rural destinations, slow tourism, motivations, policy makers, entrepreneurs, decision-makers.

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CLLD IMPLEMENTATION FOR SUSTAINABLE DEVELOPMENT. A SOCIAL NETWORK ANALYSIS ON AN ITALIAN LOCAL ACTION GROUP “TERRA È VITA”

Tani, Mario¹; Mazzitelli, Andrea²; Basile, Gianpaolo²

¹Department of Economics, Management, Institutions, University of Naples Federico II, Naples, Italy

²Faculty of Economics, Universitas Mercatorum, Rome, Italy

ABSTRACT

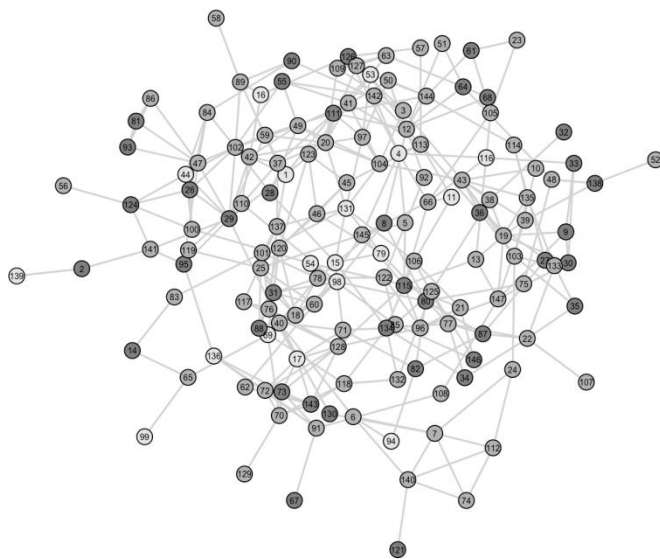
The search for new solutions, or to improve existing ones, to reach ONU 17 Sustainable Development Goals (SDGs), is providing new opportunities for innovative small businesses, social economy start-ups and NGOs at local, regional, or national level.

This search is an uncertain, often complex, and always collective, endeavor in which are involved both economic and social stakeholders; all actors involved in the (social) innovation process share the its development responsibilities (Freeman, 2010; Blok et al., 2015). This research aims to understand it Community-Led Local Development (CLLD) approach enables spatial-temporal states in which a convenor mediated multilevel governance may spur social and innovative activities in a given territory. We use a Multi-Level Governance view (George, 2004), to represent the Local Action Group (LAG) convenor role within the economic and societal relational processes in helping a bottom-up territorial design (Servillo, 2019).

The authors present research carried out on a LAG, namely LAG Terra è Vita, situated in Southern Italy, to highlight its convenor role to stimulate, and support local actors toward innovation and sustainability-related processes to improve the local area quality life.

We have investigated these actors' vision of the local area needs and how they considered the various activities of the LAG itself (Ter Wal & Boschma, 2009) with a survey administered with the help of LAG Terra è Vita to reach all the entrepreneurs that, over the years, have tried to participate in the LAG activities. The final sample, 150 firms with less than 250 employees, is composed by a significant part of the LAG-related companies in the area three main sectors: agro-industry, crafts, and tourism.

We studied the relations between entrepreneurs using the social network analysis, building a bi-partite network tying actors to their perception of the LAG activities effectiveness (Vanderkerckove and Dentchev, 2005; Nam, 2015), then we used a Fixed Degree Sequence Model algorithm to extract the network structural backbone to have a network that describes the most relevant relationships (Neal et al., 2021) (see Figure 1). This network shows local area as a community characterized by collaboration or cooperation between different stakeholders sharing a vision of the local area.

Figure 1 - The LAG Network Backbone

Legend: dark grey = Tourism; grey = Agro-industry; light grey = Craft

Keywords: social innovation, stakeholder engagement, convenor, CLLD, network analysis, network backbone extraction.

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DETERMINANTS OF LIFELONG LEARNING PARTICIPATION

Teerakapibal, Surat

Department of Marketing, Thammasat Business School, Thammasat University, Bangkok, Thailand

ABSTRACT

Advancement in medical sciences along with growing health-conscious trends have significantly contributed to the lengthened lifespan of global citizens. Population of developed countries such as Spain, Switzerland, Italy, and Austria have been forecasted (United Nations, Department of Economic and Social Affairs, Population Division, 2019a) to be well above 83 years. This figure is estimated to be 85 years for China and Japan. World population is also expected to include approximately 1.5 billion citizens with the age of 65 years or older by 2050 (United Nations, Department of Economic and Social Affairs, Population Division, 2020). Consequently, there are rising interests among policymakers to instantaneously promote improved healthcare systems, better quality of life, social inclusion and income security. To alleviate the financial burden soon to be realized by governments, lifelong learning is a prominent direction to equip elderly with skills required to remain self-sufficient after reaching their traditional retirement age. According to the survey administered by the United Nations, Department of Economic and Social Affairs, Population Division, 66 percent of governments adopted policies to expand lifelong learning participation in their nations (United Nations, Department of Economic and Social Affairs, Population Division, 2019b).

UNESCO argues that lifelong learning is “rooted in the integration of learning and living, covering activities for people of all ages (children, young people, adults and the elderly, girls and boys, women and men) in all life-wide contexts (family, school, community, workplace and so on) and through a variety of modalities (formal, non-formal and informal) which together meet a wide range of learning needs and demands” (United Nations Educational, Scientific and Cultural Organization Institute for Lifelong Learning, 2022). At an early stage, lifelong learning targets mainly adults currently in workforce. A stream of research (for examples, Bartel, 1994; Black and Lynch, 1996; Delery and Doty, 1996; Huselid, 1995; Huselid *et al.*, 1997), therefore, investigates how training programs increases productivity in real settings. Remarkably, Bartel (2000) estimates the return rate for a day of training in on average 1.8 percent. In addition, Barrett and O’Connell (2001) found that in-company training positively influences higher level of productivity for companies in the United Kingdom. Extant literature further examines how significance of lifelong learning is perceived by organizations in different countries. For instance, Pastor *et al.* (2011) shows that larger firms in Spain promote trainings among their employees. On the other hand, only a quarter of companies in the United Kingdom recognize the importance of these activities (Tennant *et al.*, 2002).

Much of the decision to participate in most cases depends on the individuals themselves. Therefore, a stream of research attempts to explore motivations behind decisions to get additional training. Findings suggest cognition plays a major role in determining participation. Specifically, Boateng (2009) and Findlay *et al.* (2012) state that changing job, pressure from employers, salary increase are among top reasons. Nevertheless, factors which deter individuals from getting trained are much more emotional based. In particular, Kyndt *et al.* (2011) claims that older workers are reluctant to participate in lifelong learning programs due to the fear of going back to school. Many perceive that success in training is not achievable (Noe, 1986; Rigby and Ponce Sanz, 2019).

In order to investigate motivations of citizens to participate in lifelong learning programs under a developing country setting, a series of logistic regression models are estimated to fit a survey data administered to individuals across age, education and income levels in Vietnam in 2020. Empirical results suggest that majority of respondents indicate willingness to go back to school for additional training. Interestingly, developing hobby-related skills such as dancing, singing, and drawing encourage individuals to participate ($p\text{-value} < 0.000$). New friendship and job advancements are also determinants of lifelong learning participation decision ($p\text{-value} = 0.034, 0.016$, respectively).

Findings contribute to both literature and practitioners. Although extant research suggests that job advancement and pay increase are key motivations for workforce to participate in trainings, hobby-related courses may serve as an initial step towards going back to school for individuals. Moreover, friendship promotion activities are also a key motivator which helps enticing citizens to get additional training. This paper particularly sheds light on motivations of citizens in developing nations when making decisions to participate in lifelong learning programs.

Keywords: Lifelong Learning Developing Nations; Logistic Regression; Public Policy

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WHAT AFFECTS CONSUMERS' BEHAVIOR OF GREEN COSMETICS? A SYSTEMATIC LITERATURE REVIEW

Testa, Riccardo; Rizzo, Giuseppina; Schifani, Giorgio; Migliore, Giuseppina

Department of Agricultural, Food and Forest Sciences, University of Palermo, Italy

ABSTRACT

INTRODUCTION

The growing consumer interest in green cosmetics that has emerged in recent decades has prompted several authors to analyze their consumption. (Kumar et al., 2021). However, despite scholars have found several factors influencing consumers' decision-making process, these have mainly been analysed separately, often producing conflicting results (Shimul et al., 2021). The only one published review (Liobikienė and Bernatoniene, 2017) has depicted some of the critical factors influencing the intention of consumers to purchase green products, including cosmetics. However, these authors have adopted a behaviouristic approach that explains consumers' behaviour through a stimulus-response paradigm that does not fully capture the determinants of consumers' decision-making process. Indeed, according to the literature, the process of consumers' decision-making is intermediated by some factors (organisms) driving the stimuli toward the responses, following a cause-effect chain (Rödiger and Hamm, 2015; Lavuri et al., 2022). Therefore, to the best of our knowledge, no systematic review of the literature on consumers' behaviour towards green cosmetics has been carried out that provides a systematic compilation of the determinants affecting this behaviour, leaving gaps that inhibit the full understanding of the nature, and challenges associated with the phenomenon under study. In order to fill this gap, the current study provides a systematic and updated overview of the literature on consumers of green cosmetics, by applying a neo-behavioural approach such as Stimulus (S) - Organism (O) - Response (R) Theory (SOR Theory) as theoretical framework. The SOR theory was chosen since it clearly explains the interconnection among stimuli (S) and the internal state of an individual (O) that in turn affect a response (R), that is the purchase intention (Lavuri et al., 2022). Therefore, the originality of this review is that it represents not only the first systematic approach on literature of consumers of green cosmetics, but it tries to well explain the consumers' decision-making process by means of a neo-behavioural approach. Through the SOR Theory, all factors affecting consumers' purchase intention of green cosmetics have been classified, giving special attention to the role of Organisms (facilitators and inhibitors) in the consumer's decision-making process (Rödiger and Hamm, 2015).

METHODOLOGY

To perform the systematic literature review, a specific protocol containing all steps has been established. It includes: the definition of research questions, the selection process of primary studies, the exclusion and inclusion criteria and the quality measure of selected manuscripts (Page et al., 2021). The research question “What are the factors affecting consumers’ decision making process towards green cosmetics?” guided the choice of key terms for the literature search. Thus, by means of a specific Boolean algorithm 834 primary studies in Scopus and 545 ones in Web of Science have been identified. Subsequently, after the adoption of selection criteria, we have carried out a first screening of papers, reading titles and abstracts and excluding manuscripts that do not dealing with the topic, obtaining 62 eligible articles. Finally, by reading the full articles and evaluating their suitability, 47 articles have been retained and fully analysed, thus the discussed factors affecting consumers’ behaviour of green cosmetics have been classified, following the SOR theory, in Stimuli (S), Organism (O) and Response (R).

Results

The first study dealing with consumers of green cosmetics refers to 2007, although the majority of reviewed papers (91.5% of the total) are published after 2016, showing that consumers’ behaviour towards green cosmetics is a recently explored topic. According to review, most studies take place in Asia (29), followed by Europe (15), Africa (4) and America (3). This highlights the growing interest for the green cosmetics not only in western countries, but above all in countries where several home-grown companies have begun to incorporate centuries-old Ayurvedic and other herbal medicines into their formulas (Lavuri et al., 2022).

Many reviewed articles (30) are based on a clear theoretical framework and the most of them (13) has adopted the Theory of Planned Behaviour.

By applying the lens of SOR as theoretical framework, we have conceptualized a specific model to understand consumers’ behaviour of green cosmetics (Fig. 1).

Findings of the study reveal that environmental concern and health consciousness are the main Stimuli of consumers’ decision-making process towards green cosmetics (43 and 22 articles respectively), as highlighted by other research dealing with natural products (Bazzani et al., 2020). Relatively to Organisms, we have identified 17 different constructs as facilitators and 11 as inhibitors of consumers’ decision making process. Among facilitators, attitudes towards green cosmetics and social norms represent the main factors affecting consumers’ behaviour for 22 and 18 articles respectively, by highlighting that they play a key role in decision-making process as well as for natural products (Liobikien and Bernatonien, 2017). As regards inhibitors, the high price represents the most important

barrier for 13 articles inasmuch consumers consider it a risk factor and they prefer to buy conventional and less expensive products (Sadiq et al., 2021).

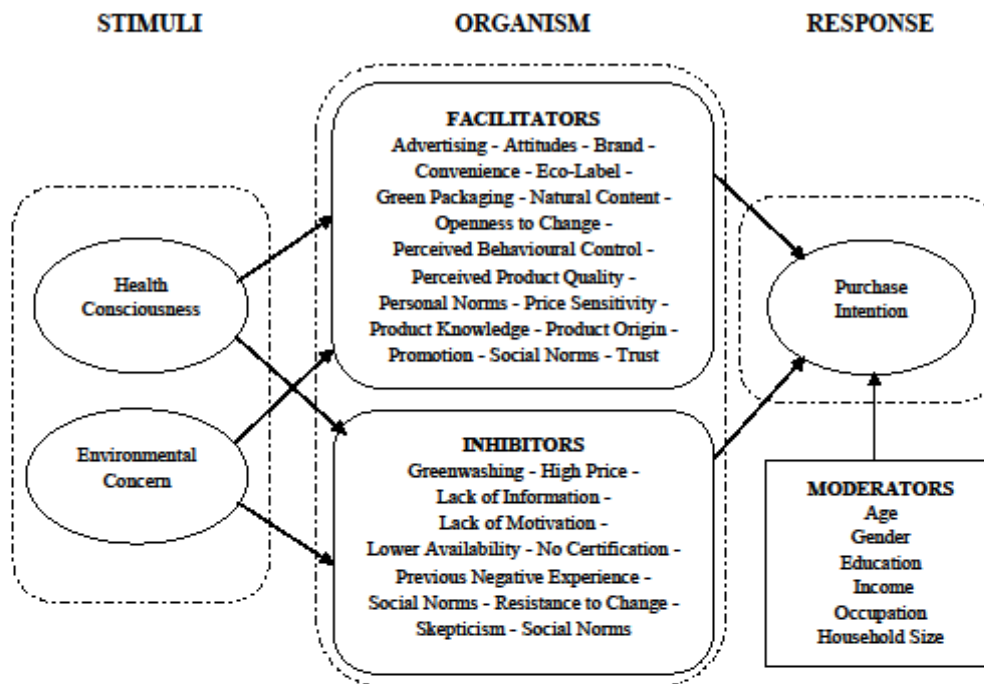


Fig. 1 - Conceptualization of the study

Purchase intention has been identified as the final response of our conceptual model and it represents the focus for 31 reviewed articles because it is considered to be a preceding step to purchase and, therefore, a key predictor of actual consumers' behaviour (Kushwah et al., 2019). Socio-demographic characteristics of green cosmetics consumers have been classified as control variables and they are: age, gender, education, income, occupation, household size (Lavuri et al., 2022).

The review has identified several gaps in literature on green cosmetics consumption, in terms of adopted theory or methodology, data collection, sampling procedures. This is probably the reason for which there is a no clear picture of sociodemographic variables and because only one article has tried to segment consumers of green cosmetics by means of a mixed-method approach (Eberhart and Naderer, 2017). The most of reviewed articles are aimed at evaluating purchase intention or behaviour, while only two articles have tried to understand consumers' willingness to pay towards green cosmetics (Morone et al., 2021; Joshi and Nulkar, 2016). Furthermore, the majority of published articles referred to a single country or a specific cities and do not allow researchers to extend their conclusions to a broader context.

Therefore, future researches should be based not only on consolidated theoretical approaches but also on well-defined methodologies, considering representative consumers' sample in order to provide also useful information on sociodemographic variables. Moreover, further studies are expected to adopt different theories or models to identify new facilitators and inhibitors of the consumers' decision-

making process to buy green cosmetics as well as to use experimental economics approaches in order to simulate the real market, providing more realistic consumers' choices aimed at understanding the attitudes-behavioural gap. A deep knowledge of the effects of facilitators as well as inhibitors, in fact, could be an important tool to better understand the reasons for which consumers often continue to buy conventional cosmetics despite their growing awareness for health and environmental issues (Kumar et al., 2021).

CONCLUSIONS

Through the lens of SOR theory, we provide a clear and direct interpretation of decision-making process thanks to unidirectional cause and effect association among stimuli, organism and response. The findings of our study provide both theoretical, managerial and political implications. From a theoretical point of view, it enriches the literature on green cosmetics consumption by giving a more exhaustive and complete picture of consumers' intention to purchase green cosmetics. In terms of management implications, a clear picture of the factors underlying the dynamics of green cosmetics purchase intentions could help cosmetic companies define specific marketing strategies to best meet consumer needs and expectations. From a policy perspective, these findings could help policymakers to set specific policy interventions in order to encourage sustainable consumption and lifestyle.

Keywords: Facilitators; Inhibitors; Natural; Organic; Purchase intention; SOR Theory; Stimuli.

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VALUE GENERATION MANAGING RISKS IN PROJECTS: A CASE STUDY IN THE PHARMACEUTICAL SECTOR

Testorelli, Raffaele; Verbano, Chiara

Dept. Management and Engineering, University of Padova, Vicenza, Italy

ABSTRACT

INTRODUCTION

Projects are initiated to introduce change and manage innovation. Without projects, organizations would become obsolete and unable to cope with today's competitive business environment (Shenhar *et al.*, 2001). For this reason, there is a greater emphasis on value generation as the main focus of Project Management (PM), both from an academic and a managerial perspective, and an increasing interest in understanding how uncertainty can be managed to maximize value generation in projects (Winter *et al.*, 2006; Willumsen *et al.*, 2019), while considering the different interests and diverse perspectives of stakeholders (Lepak, Smith and Taylor, 2007). However, the current complex and dynamic business environment characterised by volatility, uncertainty, complexity, and ambiguity is creating relevant challenges in managing projects (PMI, 2004; Maylor *et al.*, 2006; Shimizu, Park, and Hong, 2012), both for project-based companies and for more traditional process-based companies. Furthermore, recent directions of international standards on risk management (RM) consider RM as a value generation process (COSO, 2017; ISO 31000, 2018; de Pooter, 2019). In particular, the RM stream applied to projects is called project risk management (PRM); it is a systematic process that implements systems and procedures to identify, analyse, and manage risks in projects (Raz and Michael, 2001). The goal of PRM is to mitigate the probability of occurrence and the impact of negative risks, as well as to improve the probability of occurrence and the impact of positive risks in the context of projects (Borge, 2002; PMI, 2013). However, while international standards have been assuming that PRM creates value for project outputs and results, and also other strategic and organizational benefits, empirical literature reports conflicting results (Willumsen *et al.*, 2019), suggesting that they have been performed in diverse contexts, while adopting specific and diverse perspectives and different levels of analysis. This work presents the results emerging from a case study in the pharmaceutical sector, suggesting new and previously missing aspects of value generation with PRM for different stakeholders. The results give guidance to organizations on how to improve value generation in projects for multiple stakeholders and contribute to fill a gap in the PRM literature.

OBJECTIVES AND METHODOLOGY

Given the gaps that emerged from the literature review, the objective of the study is to improve PRM value generation in projects for stakeholders. More precisely, the following research questions (RQs) have been defined: (RQ1) How can PRM economic value and the PRM intangible benefit generated for stakeholders be measured?; (RQ2) How do contextual factors influence PRM value generation?; (RQ3) How can PRM be improved to increase the value generated? Exploratory and explanatory research has been chosen through case study methodology (Yin, 2013), based on the need to (1) investigate a bounded system within a unique context (Stake, 2005) and a phenomenon within its real-life context using multiple sources of evidence (Scholz, 2002); (2) take into account the organization within which projects are developed and interact, extending the contingency-based approaches (Shenhar, 2001); and (3) adopt a more detailed level of inquiry to describe the context, features, and processes involved (Yin, 2013; Kazadi, Lievens, and Mahr, 2016). The unit of analysis is the PRM system implemented in the project. The case study was selected based on the following criteria: (1) performed by a pharmaceutical company; (2) where PRM has been implemented at the project level; (3) where both internal and external stakeholders have been involved; (4) finished for at least 6 months, in order to capture the entire PRM value generated; (5) with the availability and PM knowledge of at least two project stakeholders. In particular, a pharma company (*Gamma*) based in Italy has been selected. *Gamma* is organised according to a combined model, both by projects and by process. The analysed project has been performed by *Gamma* for an academic spin-off based in the United States, and the objective was to develop an active principle for a new drug. The empirical framework of analysis has been designed based on the framework of Testorelli and Verbano (2022, forthcoming) and includes three elements: project context, PRM implementation (Yeo and Ren, 2009; PMI, 2017), and PRM value generated. To ensure internal validity through triangulation (Yin, 2013) and to increase data reliability (Voss, Tsikriktsis and Frohlich, 2002), data collection employed multiple sources of evidence (interviews, qualitative/quantitative questionnaires, project documents). The empirical framework of analysis supported the design of the questionnaire, previously tested and improved through a pilot case study. Finally, qualitative and quantitative methods have been applied to analyse the data.

RESULTS AND CONTRIBUTIONS

The context analysis of the project revealed that the level of complexity was perceived as medium-high by the stakeholders interviewed (4.70, Likert scale from 1 to 7). However, relevant gaps emerged in their evaluation, particularly in relation to perceived levels of uncertainty and instability and dynamic uncertainty. However, despite the perceived complexity, stakeholder analysis revealed the absence of critical stakeholders. The perception of project complexity led to the implementation of a PRM system

with a 'defined/managed' maturity level (level 3.5). The fitting analysis revealed that the implemented level of maturity of the PRM system was adequate to the context, resulting in minor losses related to identified technical-operational risks not always managed proactively. In fact, despite the expected residual risk estimated at 3.7% of the budget, the project risks generated losses for the customer (5.1% of the budget), while *Gamma* captured the effect of positive risks (0.7% of the budget). Despite the impacts of negative risks, the economic value generated through PRM was 1.33 times higher than the cost of its implementation ($PVI_{econ} = 1.33$), where 95% has been captured by the customer and the remaining 5% by *Gamma*; the fit analysis revealed that with a more proactive approach to PRM, the economic value for the customer could be even higher ($PVI_{econ} = 1.49$). Moreover, PRM has generated also relevant intangible value at the customer level (increased customer satisfaction and higher customer trust), at the company level (organisational benefits), at the project level (improvement of PM and benefits to the project team) and at the project output level (higher quality of the output). The overall level of satisfaction with the generation of PRM value is medium-high (Likert scale from 1 to 7: 4.5 for the PM, 4.1 for the Senior Scientific Project Leader, 4.2 for the VP Head of Portfolio and Project Management). Finally, some indications to foster value creation through PRM can be grasped from the analysis of the *case study*, particularly (1) aligning stakeholders' perceptions on project complexity (particularly in relation to the levels of uncertainty and instability, and dynamic uncertainty), could support the adoption of a more proactive approach to PRM, thus leading to capture the full value generation potential of PRM; (2) aligning stakeholders' value system could support the definition of specific value generation strategies; (3) PRM activities could be included in future contracts to foster PRM value generation for the customer; (4) intangible benefits (particularly the organisational benefits for the company) could be maximize managing RM at the portfolio level. This work presents the results emerging from a case study in the pharmaceutical sector, suggesting new and previously missing aspects of PRM value generation for stakeholders. The results give guidance to organisations on how to improve the generation of value in projects for multiple stakeholders and contribute to fill a gap in the PRM literature, while providing indications about future directions. This analysis also has some limitations, mainly due to the fact that empirical research has been limited to a single case study in the pharmaceutical sector.

Keywords: Value Generation, Project Management, Project Risk Management, Stakeholder Management, Case Study, Pharmaceutical Sector

(References available on demand)

ONLINE HOTEL BOOKING AND PRE-DECISION STAGE: THE ROLE OF METAVERSE IN TARGETING MILLENNIALS

Theofanous, Giannis¹; Stylianou, Christiana^{1,2}; Sakka, Georgia^{1,3}

¹Business School, UNICAF University, Larnaka, Cyprus

²Department of Hotel and Tourism Management, Cyprus University of Technology, CUT, Limassol, Cyprus

³School of Business, University of Nicosia, UNIC, Nicosia, Cyprus

ABSTRACT

The purpose of this study is to examine the effect of the Metaverse on Millennials' behavioural intention and precisely on online hotel bookings' perception within the hospitality industry.

Millennials, also known as 'Generation Y,' 'Generation Me,' or 'Generation Net,' is a generation that was born in the last two decades of the twentieth century and began their adult lives in the new millennium (Galdames and Guihen, 2022). Their age range varies according to the geographical area or theoretical positions (Moreno *et al.*, 2017). The term "Millennials" has been associated with more synonyms such as GenMe, The Entitled Generation, GenNext, Digital Generation, and Echo Boom Generation (Luttrell and McGrath, 2015). Tapscott (1997) and Prensky (2001) were the first to propose the concept of the millennial generation.

Researchers have described millennials as trustworthy, tolerant, individualistic, academically prepared, and digitally savvy, distinguishing them from previous generations (Furlow, 2011; Moreno *et al.*, 2017). It has been also argued that millennials are open-minded, social, innovative, energetic, ambitious, reliable, motivated, and intelligent young people (Tariyal *et al.*, 2020). As previously stated, millennials are technologically aware since they have grown up engaged in technology, being constantly active on digital media, the Internet, and technological advancements (Calvo-Porrall and Pesqueira-Sanchez, 2019).

Technological advancements and tools influence and drive consumer behaviour in the tourism industry and (non) paradoxically contribute to the growth of tourism by enabling access to more delicate and remote destinations (Kim *et al.*, 2019). Yang *et al.* (2017) explain that consumers' enjoyment of visual exploration could be significantly increased through these technological advances, leading to greater product interest and purchase intention. Thus, visual exploration provides richer immersive experiences that may significantly affect travellers' attitudes and decision-making (Chang and Chiang, 2022). One technological advancement that provides visual exploration is the "Metaverse".

According to Mystakidis (2022), the definition of a Metaverse is “the post-reality universe, a perpetual and persistent multiuse environment merging physical reality with digital virtuality”. The Metaverse is a combination of the words ‘meta’ (prefix denoting beyond) and ‘universe’; it mixes various virtual environments (a mixture of virtual and augmented reality) to express real life through avatars (Aburbeian *et al.*, 2022). This phenomenon can be conceptualized as a synthesis of virtual worlds to form a collective, persistent, and interactive universe (Gursoy *et al.*, 2022). In tourism, Metaverse uses physical reality and Mixed Reality (henceforward MR), which are augmented reality (AR) and virtual reality (VR), to converge all stakeholders in a shared, virtual space, enhancing physical spaces with MR spaces and transforming the Internet into an alternate universe (Buhalis and Karatay, 2022).

MR is increasingly applied to tourism, and it is expected to impact marketing strategies in order for tourists to be able to have an experience with products and services in tourism and hospitality (Graham, 2016). Based on Statista (2022), the global VR, AR and MR markets reached \$28 billion in 2021, rising to over 250 billion U.S. dollars by 2028. Thus, consumer decision-making and, more specifically, the millennial generation is influenced by MR. It is the first generation born under the Internet’s umbrella, and as a result, it has had nearly unrestricted access to information, digital resources, and cutting-edge technologies (Sessa *et al.*, 2007).

MR research in the hospitality industry has also enabled the researchers to understand better the adoption and impact of MR and how it can motivate consumer engagement and attitude change. There is an increase in studies examining the effect of immersive content on mental imagery and perception by consumers and behavioural intention (Zeng *et al.*, 2020). However, there is a lack of research examining Metaverse’s interaction affects the hospitality industry and precisely hotel bookings’ perception by consumers and behavioural intention (Ozdemir, 2021), especially for millennials consumers.

This study will offer significant contributions to the hospitality industry and the Metaverse area by examining the effects of Metaverse on consumer behaviour on hotel bookings and explaining the interaction of Metaverse on the behavioural intention of the millennial generation. A correlation is expected to be found between the MR in the pre-decision stage with MR devices to influence positively millennials to book a hotel and visit a destination. This study will examine this relationship, both qualitatively and quantitatively, in order to both confirm it and deeply explain it by revealing the parameters and factors affecting it.

Keywords: Metaverse, Mixed Reality, Augmented Reality, Virtual Reality, Hotels, pre-decision stage, Consumer Behaviour Millennials, Generation Y

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INTRODUCING A NEW TECHNOLOGICAL SCALE FOR VIRTUAL LEADERSHIP

Tirrel, Henning¹; Kaufmann, Hans Rüdiger²; Winnen, Lothar³

¹Department of Management and MIS, University of Nicosia, Nicosia, Cyprus

²Department of Management and MIS, University of Nicosia, Nicosia, Cyprus & University of Applied Management Studies Mannheim, Mannheim, Germany

³Department of Management and Communication, TH Mittelhessen University of Applied Sciences, Gießen, Germany

ABSTRACT

This work is re-visiting previous research which raised the claim for a new scale which captures technological aspects in leading employees that work flexibly (Tirrel et al., 2021a). The authors are guided by the research question on how information and communication technology (ICT) affects the relationship between working flexibly and leadership. Moreover, they pursue the aim of developing a new scale that includes technological aspects of virtual leadership.

The flexibility on deciding where and when to work (Hill et al., 2008) empowers employees to work at nearly all locations around the globe, like in a cafe, a library, at the customer's facilities, in a train station, and at any time (Kingma, 2016; Oldenburg, 2001, 1999; Oldenburg and Brissett, 1982). This flexibility is desired by 67.4% of employees (Weitzel et al., 2019). Thus, the usage of ICT increased in the recent past, especially triggered by the COVID-19 pandemic, enabling leaders as well as employees to share information and to communicate with each other, regardless of their location (Cowan, 2014; Darics, 2020; Hou, 2020; Kingma, 2016; Sharpp et al., 2019). Moreover, "organizations need to fully utilize the advancement and development of information technology" (Chen et al., 2021, p. 470) and leaders are urged to acquire the competences to handle those technologies competently (Larson and DeChurch 2020; Oberer and Erkollar, 2018).

Although recent literature discusses the relevance of ICT for leadership (cf. Chen et al., 2021; Cowan, 2014; Darics, 2020; Hou, 2020; Kingma, 2016; Larson and DeChurch 2020; Oberer and Erkollar, 2018; Sharpp et al., 2019; Tirrel et al., 2021b), so far, however, no suitable scale was discovered in the literature which "captures the extent to which a company's leader uses hardware and software effectively and efficiently for their leadership/management tasks based on the necessary competences, especially when leading employees that work flexibly" (Tirrel et al., 2021a, p. 1011). Moreover, Van Wart et al. (2017, p. 527) call for the integration of ICT into (the theory of) leadership as leaders need to "become effective in dealing and navigating the challenges of leading within the digital space".

Therefore, a new scale which captures technological aspects (such as the use of ICT) when leading flexibly working employees is currently being developed. This follows a multi-method procedure as

proposed by Ulaga and Eggert (2006) as well as Churchill (1979). After having successfully completed the four methodologically required steps, the final step will be a confirmatory factor analysis (CFA). Through the CFA, the underlying structure of the new scale will be determined (Hair et al., 2019) entailing, for example, the factors and associated items based on a triangulated scale validation procedure. This new scale, in turn, lays the foundation for using the scale in quantitative studies analyzing the influence of ICT on the relationship between leadership and flexible working at the organizational level. It is hypothesized that the new scale will serve as a moderating or mediating construct, enabling the researchers to answer the aforementioned research question. Finally, the authors are providing the new scale as the result of the CFA. Besides the theoretical contributions (the new scale), the application of this scale can lead to relevant insights for practice, i.e., how employees who work flexibly should be led with the inclusion of technology.

Keywords: virtual leadership, flexible work, scale development, confirmatory factor analysis

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INFLUENCE OF CELLULOSE-BASED SUSTAINABLE PACKAGING ON QUALITY OF BABY SPINACH DURING SHELF LIFE

Torrieri, Elena¹; Agustin-Salazar, Sarai^{*2}; Immirzi, Barbara²; Di Lorenzo, Maria Laura²

¹University of Naples Federico II, Department of Agricultural Sciences, Unit of Food Science and Technology, UniNa-DiA, Portici (NA), Italy

²National Council of Research, Institute for Polymers, Composites and Biomaterials, CNR-IPCB, Pozzuoli (NA), Italy

ABSTRACT

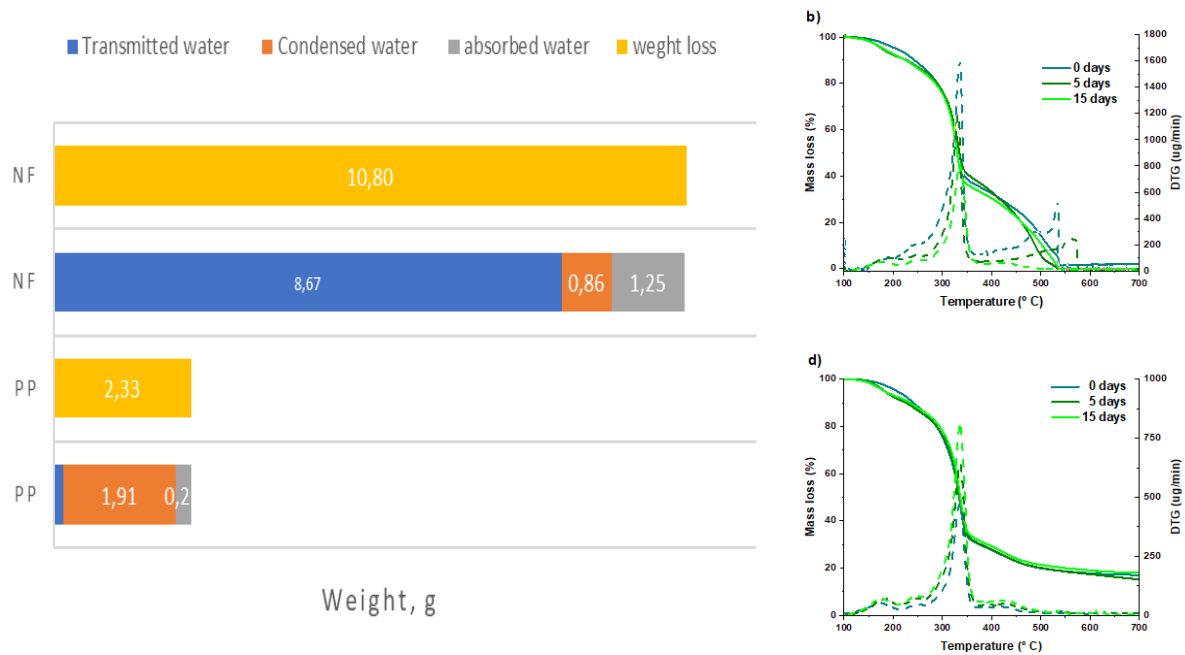
Plastic food packaging plays an essential role in the global economy, by preventing products from being spoiled. By controlling and modulating gas and vapor exchanges with the external atmosphere, adapted to food needs, plastic packaging contributes to preserve food quality during storage, and to improve safety by preventing food-borne diseases or food chemical contamination (Angellier-coussy et al., 2013), with significant benefits that also include reduction of food waste thanks to shelf-life extension (Verghese et al, 2015).

Despite these huge advantages, plastic packaging is often considered as an additional economic and environmental cost rather than an added value, mostly due to the absence of a circular plastic economy, and the leakage of millions of tons of plastics, which contribute to environmental pollution and triggers immense economic costs. Development of sustainable packaging, made of bio-based and biodegradable materials, may not only help to limit plastic waste, but also may provide opportunities to participate in a market that is predicted to show a double-digit percentage growth rate within the next five years (Kodua, 2021).

Different types of bio-based and biodegradable films are actually available, but their suitability as food packaging materials needs to be addressed for each specific type of food. This holds especially for modified atmosphere packaging, where actively respiring produces are sealed within polymeric films, able to control O₂ and CO₂ and water vapor levels within the package atmosphere (Vermeulen et al., 2018). In this contribution, we present possible exploitation of a bio-based and home compostable cellulose-based film as packaging film for fresh cut baby spinach.

Cellulose is a linear polymer formed from repeating units of cellobiose, to date not used for packaging of leafy vegetables, like baby spinach (Shaikh et al., 2021). To assess suitability of the novel packaging materials, a cellulose film, trade name NatureFlex™ NF30NVS (NF), kindly provided by Futamura Chemical Co, Ltd. (Japan), was compared with a commercial polypropylene film.

Baby spinach (*Spinacia oleracea* L.) of Italian origin, kindly provided by AMICO BIO (Caserta, Italy) were placed in a polypropylene tray, then packed either in a polypropylene (PP) film, or NF, with both films having a thickness of 30 µm.



Several tests were conducted to assess quality of the baby spinach leaves with storage time, by monitoring the headspace gas composition (O₂ and CO₂ %) or water vapor absorption of the bag. Comparison of water loss in PP and NF packages after 15 days of storage at 5 °C is illustrated in the figure of the right. The water condensed in the package was higher for samples packed with PP (2 g) respect to samples packed with NF (0,5 g). The water not condensed was partially absorbed by the NF film (2 g) and partially transmitted. In fact, the weight loss of samples packed with NF was of 10% after 15 days of storage, whereas the samples packed with PP showed only a 2% of weight loss.

The headspace gas composition also depends by the film type. For samples packed with control film, O₂ decreased during storage up to 4% after 15 days, whereas CO₂ increased up to 8%. For samples packed with NF, the O₂ and CO₂ concentration reached an equilibrium value of 9 days of storage, respectively of 10% and 2%.

All the films were analyzed before and after use with spinach. The changes were followed by the analysis of mechanical (tensile test) and thermal (thermogravimetry -TGA- and calorimetry -DSC-) properties as well as Infrared spectroscopy (FTIR, contact angle, and permeability to water vapor (WPV) at different times. As example of material characterization, thermal degradation (TGA) data measured in N₂ atmosphere are presented.

Thermal degradation of PP films occurs in a single step, either before or after the use. For NF films, thermal degradation occurs in a multistep manner. The onset of degradation (T_{onset}) value decreases (~ 20 °C) after use as packaging, while T_{max} occurs above 440 °C, and more than 17% of the weight remains at the end of the measurement for all tested films (Agustin-Salazar et al., 2022).

Regarding mechanical properties, no differences were noticed in samples, before and after the use. Contact angle values were slightly reduced after the use of films as packaging. In PP films, the

permeability decreases only after 15 days of use. The opposite is the case in cellulose films, where permeability increases after use as packaging. This behavior can be attributed to the wear of the lacquer on the film as seen also for the thermal properties and the contact angle.

The experimental analyses demonstrate the potential of NF film as compostable and bio-based packaging solution for quality preservation of baby spinach, to be extended also to other vegetables or foods with low moisture content. However, to reduce the weight loss and the water condensed on the film, water barrier properties and surface proprieties must be optimized.

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Keywords: Sustainable packaging, food quality, shelf-life, biobased polymers, fresh vegetables, baby spinach, modified atmosphere packaging.

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DOES CLIMATE CHANGE INFLUENCE BIOOPRODUCTION?

Tóth, József; Király, Gábor

Corvinus University of Budapest, Hungary and Sapientia Hungarian University of Transylvania, Miercurea Ciuc, Romania

ABSTRACT

It is known that agriculture is one of the leading causes of climate change globally (Fess and Benedito, 2018). Indeed, already in 2004, Kotschi and MulleroSamann argued that the agricultural sector was responsible for 15% of total greenhouse gas emissions worldwide, producing one quarter of carbon dioxide emissions, twothirds of methane emissions and nearly all nitrous oxide emissions.

However, it is true that agriculture also has the potential to mitigate climate change through emission reductions and carbon sequestration (McMichael et al., 2007). In this respect, important changes will bring new challenges to farmers, because they will be directed to choose more sustainable agricultural systems. organic food production has become one of the most popular sustainable options among the several alternatives to conventional food production (Asian et al., 2019; Gan et al., 2016). organic agriculture is unique in creating a whole system of agriculture based on ecological principles, by promoting closed energy and short supply chains (Borron, 2006). Change to organic production provides now better alternatives for farmers and helps reduce adverse effects on the environment.

In order to support growth in organic farming we necessarily have to study why farmers do, or do not, take up organic techniques, and to investigate the main incentives for farmers in applying organicoagricultural practices.

The study took into consideration six different hypotheses:

- H1: Greening support positively influence organic production;
- H2: Intense agriculture hinders organic production;
- H3: The negative economic effects of climate change have some impact on becoming organic producer;
- H4: The information sources of climate change practices have got some effect on becoming organic producer;
- H5: The more adaptation practices applied, the less willingness to convert to organic farmig.

In order to investigate the main incentives for farmers in applying organicoagricultural practices, the HU FADN 2016 data and an extra questionnaire for climate change adaption were processed, using the STATA integrated statistical software. The sample under study was made up of 320 subjects, but

farms without any greening area (Ecological Focus Areas) were excluded, so, 212 observations remained. In the first phase the descriptive analysis of the data (Table 1) was conducted in order to define the characteristics of the sample; in the second phase the answer of the questionnaire was decoded; in the final part, the oLS Regression (Table 2) is presented to measure how the individual variables examined in the analysis can influence the probability to change to organic production.

Table 1: Descriptive analysis

Variable	obs	Mean	Std. Dev.	Min	Max
Bio	300	1,08	0,43	1	4
Green area	300	10,83	22,17	0	241
Greening support	287	7,16	1,34	3,6	11,5
Fertilizer	264	4,43	0,97	1,4	6,6
Climate effect	300	2,82	0,75	1	5
Adaption practices	298	2,04	0,43	1	3
Professional training	302	0,38	0,49	0	1
Positive info sources	302	2,15	1,14	0	6
Negative info sources	302	2,33	1,18	0	5

Table 2: oLS Regression results

Variable	
Greening support	0.037**
Fertilizer	o0.067***
Climate effect	o0.076***
Adaption practices	0.158***
Professional training	o0.071**
Positive info sources	0.184**
Negative info sources	o0.191**
_cons	0.987***

Legend: * $p < .1$; ** $p < .05$; *** $p < .01$

The results allow acceptance of the hypotheses made. Transferring to organic production is moderate phenomenon in Hungary (1,08 → 4). There are some factors (Table 2) which significantly influence the farmers' decision on doing organic farming. Some of these factors very much relate to climate change. These factors and the direction of their effects are mainly in line with our practical knowledge. These findings provide theoretical, policy and managerial implications. First, they fill the gap in the literature on the factors that influence farmers' decision making in their choice to convert to organic. Moreover, this new knowledge can be used to direct policy makers toward winning strategies that can accompany farmers toward a more sustainable path that can mitigate tragic climate change.

Keywords: climate change; organic agriculture; farmers' decisionmaking process; oLS Regression

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INVESTIGATING THE RELATIONSHIP BETWEEN CAREER ADAPTABILITY AS A MEDIATOR BETWEEN JOB APATHY AND CAREER SATISFACTION: THE ROLE OF CAREER ADAPTABILITY AS A MEDIATOR BETWEEN

Tsameti, Angeliki; Tsamantouridis, Kyriakos; Bellou, Victoria

Department of Economics, University of Thessaly, Volos, Greece

ABSTRACT

COVID-19 pandemic has been characterized as a career shock for many people around the world (Akkermans et al., 2020). In particular, such external events are characterized by novelty, criticality, and disruption (Seibert et al., 2013). Given that COVID-19 is an external factor and based on the fact that it brought about many changes in the work setting, increased or altered tasks and obligations, namely extra stressors for employees, it is likely that employees became apathetic towards their job. Besides, since COVID-19 is a direct threat to life and its quality, under the circumstances, employees are likely to put more emphasis on other factors, such as taking protective measures against COVID-19, health and family issues and thus feel less connected to their job, showing low interest in their job tasks and hence exhibit apathetic feelings towards their job.

Job apathy is defined as “a state of diminished motivation and affect toward one’s job” (Schmidt et al., 2015, p. 486). In other words, employees with high apathy towards their job will be less motivated, emotionally attached, and caring about performing their job. The primary expressions of job apathy are disconnection from the workplace and unwillingness to invest in the organization. However, to the best of our knowledge, the effect of job apathy on career satisfaction has not been investigated yet. Career satisfaction refers to the extent to which individuals believe their career progress is aligned with their own goals, values, and preferences (Erdogan et al., 2004; Heslin, 2003; Seibert and Kraimer, 2001). Therefore, this study aims to delineate the relationship between job apathy and career satisfaction.

Drawing on the career construction theory attributed to Savickas (2005, 2013), external environmental factors can exert influence on the result of career adaptability. The key element of the theory is that it tries to shed light on the constant process of employees’ adaptation throughout their work life. Therefore, taking into account both the call for more empirical research on the relationship between career adaptability and concepts such as career satisfaction (Zacher, 2014) and the fact that previous scholars have overemphasized the role of external environment on career adaptability and almost ignored the effect of individual factors (Gong et al., 2020), combined with the impact of career adaptability on career satisfaction, we assume that career adaptability is likely to mediate the relationship between job apathy and career satisfaction.

The sample consisted of 420 Greek employees who answered an online questionnaire distributed via digital means (social media platforms), adopting a snowball methodology effect. Most of the participants were women (66.7%), 26-46 years old (60.2%), and held an undergraduate (24.5%) or a graduate degree (35.7%). According to their occupational characteristics, most of the participants work at their current job position less than a year (61%), employed both in the private and the public sector (59.3% and 40.7%), and most of them worked under fixed-term contracts (82.6%). To measure job apathy, 5 items referred to apathetic cognition developed by Schmidt et al., (2015) were adopted. Career adaptability was measured with the 12 items developed by Maggiori et al., (2015) while career satisfaction was measured with the 5 items developed by Greenhaus et al., (1990).

Results suggest that the expected mediating path is statically significant ($\beta = -.07$, LLCI = $-.11$, ULCI = $-.04$), and that there is a negative effect of job apathy on career satisfaction mediated by career adaptability. Furthermore, results also suggest the existence of a negative direct effect of job apathy on career satisfaction ($\beta = -.25$, $p < .001$).

To the best of our knowledge, this study is the first to examine the relationship between job apathy and career satisfaction and also to investigate the mediating role of career adaptability between job apathy and career satisfaction. Findings indicate that job apathy leads to low career adaptability and, in turn, low career satisfaction. This could mean that employees maintain a passive attitude towards their job when external factors activate stressors which deplete their energy and resources, making them experience their job as non-meaningful and less satisfying (or even dissatisfying). At a practical level, organizations should worry about apathetic employees, as such employees may not be doing their best or even not trying at all as organizational members. Therefore, managers should invest in understanding what causes employee apathy towards their job and try to mitigate it. Additionally, managers need to focus on career adaptability, as it is considered a significant competency to assist employees to deal with changing working conditions like those created by the COVID-19 pandemic (Lee et al., 2021).

As with all studies, this study also has several limitations. Questionnaires were completed at one point in time by respondents. Future studies could include multiple sources of data and/or adopt a longitudinal and/or diary method that would be better to demonstrate whether the correlations between the variables in this study are stable over time.

Keywords: Job Apathy, Career Adaptability, Career Satisfaction, Moderated Mediation

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SMART INNOVATION AND SHARED VALUE CREATION IN WINE COOPERATIVES: A COMPARATIVE ANALYSIS

Uliano, Anna; Marotta, Giuseppe; Stanco, Marcello; Nazzaro, Concetta

Dept. of Law, Economics, Management and Quantitative Methods, DEMM, Benevento, Italy

ABSTRACT

In recent years, food systems sustainability has been at the center of the debate that sees Europe as the first climate-neutral continent by 2050. In particular, the EU proposes a forward-looking and realistic vision of agriculture: sustainable and pursued through innovation and technology (EC, 2017). The most significant socio-economic changes also concerned citizen-consumers' instances, who showed more interest toward environmental, health, social and territorial issues, generating new consumption's demands which include intangible needs (Marotta and Nazzaro, 2012). In this context, environmental protection represents a competitive lever that, through the introduction of sustainable innovations, allows to meet citizen-consumers' new needs and, at the same time, produces positive environmental and social externalities, allowing the transition from low-impact production models to green economy models (Iakovou *et al.*, 2014; Marotta and Nazzaro, 2012, 2020; Grolleau *et al.*, 2007). This scenario led to the development of enterprise's new socially responsible behavior. In particular, the wine sector, in recent years, experimented innovative paths of change, which particularly affected production processes, increasingly smart and green (Fiore *et al.*, 2017; Nazzaro *et al.*, 2016; Dries *et al.*, 2013). Wine cooperatives have changed their investment priorities, and are increasingly oriented towards a more advanced type of innovation, that is Precision and Smart Agriculture (Giuliani *et al.*, 2011). The introduction of Smart Innovation, when accompanied by appropriate models of corporate governance, is able to support the entrepreneur in business decisions and allow cooperatives to create and share value, increasing also their competitiveness (Alves *et al.*, 2007). Furthermore, the cooperative model generates significant positive effects on the territory, producing public goods and social wealth (Vitale, 2019). These aspects have not been broadly addressed in previous contributions, especially regarding the wine sector. For this reason, this study aims to investigate the drivers and the impacts of the implementation of Smart and Precision Innovation processes on the creation and sharing of value in wine cooperatives.

In order to address study's aims, an interpretative model has been proposed, through the analysis of relevant contributions in literature concerning factors affecting sustainable innovation processes implementation in agrifood sector. In particular, five drivers of sustainable innovation for the creation and sharing of value have been identified: internal resources, external resources, policies, governance

mechanisms, and market. Such model has been validated developing a comparative analysis between wine cooperatives belonging to different territories (north and south Italy). Results highlights the important role of governance mechanisms in weak territorial context, such as the south of Italy, in order to encourage cooperative members to take part in innovation processes. In fact, in such context, contractual and incentive mechanisms become significant in order to facilitate the dissemination of innovation and thus the creation and sharing of value. This study contributes to the advancement of knowledge in providing new evidence regarding the role of innovation in the cooperative context. Policy makers could set ad hoc policies concerning various inclusion mechanisms or targeted training activities, especially in the weakest areas, in order to involve different actors in innovation projects and spread benefits related to such activities.

Keywords: smart innovation, viticulture, shared value creation, sustainability, comparative analysis.

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ENHANCE KNOWLEDGE MANAGEMENT PRACTICES IN AGRI-FOOD SECTOR: SOME PRELIMINARY CONSIDERATIONS

Vesperi, Walter^{1,2}; Coppolino, Raffaella³; Ingrassia, Raimondo⁴

¹dept. of Law, Economics and Sociology, "Magna Graecia" University of Catanzaro, Catanzaro, Italy

²dept. of Culture and Society, University of Palermo, Palermo, Italy

³dept. of Economics, University of Messina, Messina, Italy

⁴dept. of Economics, Business and Statistics, University of Palermo, Palermo, Italy

ABSTRACT

1. INTRODUCTION

In recent years, corporate museums are becoming a very widespread organizational phenomenon. In the academic debate, studies on the corporate museum are few and focus exclusively on a communication and marketing perspective. In academic debate, only a small number of studies have focuses on this phenomenon from the knowledge management (KM) perspective. The corporate museum can become a place of representation of organizational memory and a source of knowledge and innovation. In management and organization studies, define organizational memory as a repository of knowledge and KM practices (Grant, 1997; Alavi & Leidner; 2001; Antunes & Pinheiro, 2020; Zahra, et al., 2020). In this study, we consider "organizational memory" as a set of knowledge present within an organization in the form of documents, information material or any other form that can represent managerial routines and practices (Vesperi and Ingrassia, 2021). The strategic function of the corporate museum does not end with the mere collection and representation of organizational artefacts. The corporate museum can be understood as "Ba" (Nonaka & Toyama, 2005, p. 428). According to Nonaka and Konno (1998), the ba is in a specific space created to collect and manage the knowledge of an organization. Ba is to be considered a shared space in which people - through dialogue, interaction with organizational artefacts and the contextual sharing of knowledge - can learn new knowledge and innovative solutions.

In line with this definition, the corporate museum, through the representation of organizational memory, can be consider as a place where, through the representation of organizational artefacts, experiences and KM practices, visitors remove any psychological barrier, starting the sharing process. of knowledge, through a process of socialization (Nonaka, et al., 2000). The corporate museum becomes a platform for advancing individual and organizational knowledge. The process of knowledge creation, therefore, becomes a cyclical process (Nonaka, 1994).

2. METHODOLOGY

This study aims to highlight the strategic value of corporate museums, by relating the concepts of organizational memory and *ba*. To achieve this aim, the study is based on a qualitative-exploratory approach. In particular, in order to fully understand and frame the general dynamics of the phenomenon (Eisenhardt, 1989; Yin, 1994; Ventura, et al., 2020) the study is based on the analysis of the main theoretical references on knowledge management, organizational memory and *ba*. In order to bring out aspects of KM, the methodology was based on the use of a variety of sources. In particular, information and data were collected by consulting the public and free database created by Museimpresa (<https://museimpresa.com>). Museimpresa is an Italian association, founded in 2001 with the aim of promoting the enhancement of historical archives and business museums. The data were observed up to the date of 05/15/2021 (mm/dd/yyyy).

3. CONCLUSIONS AND FIRST CONSIDERATIONS

From the analysis of the Museimpresa databases, descriptive statistics were created, with the aim of understanding the diffusion of the phenomenon of the corporate museum in Italy. From the consultation of the databases, there are n. 101 corporate museums, who voluntarily registered in the database. It emerges that the geographical distribution is not homogeneous in the Italian territory (Vesperi and Ingrassia, 2021). Most of the corporate museums are located in central-northern Italy. This data is consistent with the history of the country's industrial evolution. Then, our survey focused on the agri-food sector. The agri-food sector, due to its intrinsic characteristics, represents crucial elements for the implementation of KM practices (Vesperi and Coppolino, 2022). Almost 40% of the corporate museums present in the databases can be connected to the agri-food sector. This demonstrates the need to reflect on the phenomenon of corporate museums in the agri-food sector. The results of this study, in this version, represent first elements of reflection on corporate museums. From the KM theoretical perspective, the corporate museum represents a collection of knowledge practices of an organization or a sector. Following this line of study, corporate museums can represent places in which to favour the development of new ideas, innovation and the development of new knowledge. Furthermore, this study associates the phenomenon of the corporate museum with the "*ba*" (Nonaka and Konno, 1998). This study is not without limitations. The first limitation is that this study is a work in progress. In fact, some aspects are still under investigation. In particular, the future steps of this research will focus on the realization of semi-structured interviews with the top and middle management of the corporate museum and with the associated parent company. The interviews will be aimed at understanding the relationship between the business museum and inter-organizational relationships, the organizational practices represented in the corporate museum and

the management of innovation (discussion of new ideas, creativity and development of new knowledge). This study may have interesting implications for research. In particular, the study of corporate museums from the KM perspective still appears poorly developed. There are few studies that focus on the inter-organizational relationships between the corporate museum and the parent organization. From the point of view of practical implications, the corporate museum can represent a place for the development of new ideas and innovation but above all to improve KM practices.

Keywords: Organizational Memory, Knowledge Management, Agri-food organization, BA.

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CUSTOMER ENGAGEMENT ENHANCEMENT ON INSTAGRAM: STRATEGIES FOR SMALL AND MEDIUM ENTERPRISES

Wahid, Risqo; Karjaluoto, Heikki; Taiminen, Kimmo

School of Business and Economics, University of Jyväskylä, Jyväskylä, Finland

ABSTRACT

INTRODUCTION

Empirical evidence has shown that customer engagement on social media (CESM) (e.g., likes and comments) can contribute to numerous business outcomes, such as intention to consume products (Alhabash *et al.*, 2015) and sales (Saboo *et al.*, 2016). Despite extensive efforts to uncover factors that can enhance CESM (e.g., see Tellis *et al.*, 2019; Wahid and Gunarto, 2021), several gaps still exist in content marketing literature. Notably, content marketing scholarship scarcely inspects the effect of visual aesthetics on CESM. In technology-mediated communication, visual aesthetics refers to the pleasing look of an image or object, categorized into classical and expressive (Lavie and Tractinsky, 2004). Images or videos have classical aesthetics when presented orderly and in clear designs. On the other hand, digital content is expressive when it shows creativity and originality (e.g., images placed at irregular angles and enriched with additional effects and animations). In addition, although CESM studies have analyzed textual information (e.g., call to action and questions embedded on social media posts, see Wahid and Gunarto, 2021), they have never considered the lengths of textual information (LTI). Lastly, previous studies have never explicitly discussed CESM enhancement strategies in the context of small and medium enterprises (SMEs).

This study aims to examine the effects of visual aesthetics (i.e., classical and expressive) and LTI on CESM (i.e., likes and comments) in the contexts of SMEs and Instagram. This research uses fashion SMEs (i.e., a high involvement product) as a sample. We hypothesize that: *H1a* Instagram posts presented in classical aesthetics generate higher likes than those presented in expressive aesthetics; *H1b* Instagram posts presented in classical aesthetics generate more likes than comments; *H2a* Instagram posts with short, medium, and long captions generate higher likes than very short captions; *H2b* Instagram posts with short, medium, and long captions generate more likes than comments; and *H3* there are interaction effects between visual aesthetics and LTI in influencing CESM of (a) likes and (b) comments.

METHODS

We used fashion SMEs (i.e., a high-involvement product) as a sample. This is because fashion brands

rely heavily on visual strategies to attract consumers on Instagram (Kusumasondjaja, 2019), hence in line with the objective of this study. Following the common practice in CESM literature (e.g., Wahid and Gunarto, 2021), we deployed content analysis for the data collection procedure. Two trained coders gathered Instagram posts of 10 fashion SMEs in Indonesia. Data comprised posts from 1 October 2020 to 31 December 2020. In coding the visual aesthetics construct, coders recorded Instagram content as classical aesthetics (clear, symmetrical, and simple designs) or expressive aesthetics (asymmetrical and enriched with graphics, effects, and animations). Regarding LTI, coders input Instagram posts either having very short caption (one sentence or less), short caption (one paragraph), medium caption (two to three paragraphs), or long captions (more than three paragraphs). We also included time and hashtags as control variables. For reliability, the two coders first recorded 100 data. This resulted in 0.53 Cohen's kappa value. Due to this low value, the coders received additional training. After this, the coders coded 100 other data. The new Cohen's kappa was 0.917. As the reliability value was high, the coders continued to record the remaining Instagram content. After removing outliers, the final dataset included 1,147 posts, 758,462 likes, and 24,059 comments on Instagram. Given that the data were count data and overdispersed, following previous content marketing studies (e.g., Moran, Muzellec and Johnson, 2020; Wahid and Gunarto, 2021), we analyzed the data using negative binomial regression with maximum likelihood estimation.

RESULTS

In short, we reject *H1a*, *H1b*, and *H3b*; fully confirm *H2a* and *H2b*; and generally accept *H3a*. We corroborate that longer LTI can improve likes. Pertaining to visual aesthetics, while independently it has no effect on likes and comments, it negatively affects likes when combined with medium and long LTI. Table 1 exhibits the results of the negative binomial regressions.

Table 1. Negative Binomial Regression Results

Parameter	Model 1 - Likes		Model 2 - Comments	
	B	Std. Error	B	Std. Error
(Intercept)	6.483**	.0955	3.001**	.1295
Expressive aesthetics (baseline)				
Classical aesthetics	.266	.2497	-.295	.3366
Very short caption (baseline)				
Short Caption	.365*	.1476	.297	.1970
Medium Caption	.437**	.0931	.008	.1229
Long Caption	.359**	.0975	.142	.1286
Classical aesthetics x Short Caption	-.195	.3453	.452	.4610
Classical aesthetics x Medium Caption	-.536*	.2614	-.047	.3527
Classical aesthetics x Long Caption	-.720*	.2811	.180	.3777
Time	-.104*	.0506	.164*	.0678
Hashtags	-.550**	.0479	-.233**	.0648
(Negative binomial)	.545	.0211	.927	.0386

** $p < 0.01$; * $p < 0.05$

DISCUSSION AND IMPLICATIONS

We theoretically contribute to content marketing literature in three aspects. First, prior studies focused only on media formats such as photos and videos. They scarcely included the visual aesthetics discussion. We extend content marketing literature by showing how visual aesthetics can influence customer engagement on social media. Second, previous research only examined the types of textual information to embed on social media posts. We extend the literature by going deeper and exploring the length of the textual information or captions on social media posts. Third, we expand the context of the content marketing and customer engagement literature by using SMEs as the sample study. This last contribution is especially substantial given that customer engagement studies have never inspected SMEs, and SMEs need content marketing insights as they typically lack knowledge in developing effective content marketing strategies (Taiminen and Karjaluoto, 2015).

This study also has a significant contribution to practice. Notably, for fashion SMEs, we advise them to write longer captions on Instagram to increase likes. People are highly involved when deciding to buy fashion products as fashion can show their personality and character. Therefore, fashion SMEs should provide a complete description of the products, such as the materials, sizes, and colours. Also, we suggest fashion SMEs avoid more than one paragraph of caption when sharing Instagram content with classical aesthetics look. Otherwise, likes will decrease.

Keywords: customer engagement, Instagram, content marketing, social media marketing, SMEs, visual aesthetics, textual information

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LIVED EXPERIENCE OF MIGRANTS ON ONLINE HATE SPEECH USING SOCIAL MEDIA

Weerasinghe, Kasuni; Junaid, Fatima

School of Management, Massey University, New Zealand

ABSTRACT

In the past decade social media has grown exponentially and has become a primary channel for information sharing, idea exchanges, and social network building and maintenance for both individuals and organisations (Pharswan et al., 2020). Social media has revolutionised the ways in which people interact with one another and influenced people's daily life. While social media empowers freedom of expression and individual voices, it also enables anti-social behaviour, online harassment, cyberbullying, and hate speech (ElSherief et al., 2018).

On every social media platform from including Twitter, Facebook, YouTube and the like, we can find a variety of hateful content targeting various ethnicities and religions, women, LGBT people and other groups (Hrdina, 2016). Hate speech refers to speech that denigrates a person because of their innate and protected characteristics. The phenomenon of online hate speech has been researched in the past decade and tactics to restrict online hate speech has been developed (e.g., Gao and Huang, 2017, Jubany and Roiha, 2016, Lucas, 2014, Tekiroglu et al., 2020). Nonetheless, there is a significant need for continued research on online hate speech production, especially in regional and topical contexts where the previous body of research is scant (Hrdina, 2016). While there is little published work available on the topic of hate speech in New Zealand, the existing literature does not investigate hate speech against migrant communities in New Zealand.

Netsafe, an independent, non-profit online safety organisation in New Zealand, conducted a study in 2017 regarding harmful digital communications found that 9% of participants received a digital communication that said offensive things about their lifestyle, or their religious or political beliefs (Pacheco and Melhuish, 2018). More recently another study by Netsafe (Pacheco and Melhuish, 2020) measured trends in online hate speech in the context of New Zealand and found it to be increasing as compared to their previous study. While in their study they used religion as a demographic variable to measure online hate, there was no focus on migrants or refugees. The study also identified that the experience of online hate speech is greater for minorities in NZ however did not further investigate which minorities were most impacted and what were the implications for their wellbeing. Relatedly, the prevalence of online racial abuse towards Māori, Pacific and Asian people is increasing as cited in

Pacheco and Melhuish (2020). While all these studies are useful in understanding the nature of hate speech in the context of New Zealand, none of these focus on migrants or refugees.

The 2020 Rapid Evidence Review of “Social inclusion in New Zealand” points that amongst the various factors of discrimination, racial discrimination scores the highest followed by discrimination based on skin colour (Webb, 2020). Social media is reported for hosting and promoting hate speech, and racism; and enabling a racists discourses (Merrill and Åkerlund, 2018). Hate speech has had implications for people, especially marginalized population. In the context of Covid-19, where the vulnerabilities of everyone especially people of colour, migrants and refugees have been exacerbated, thus exposure to hate speech is likely to have a detrimental effect of them (Meringolo et al., 2021).

Research calls have been made to understand hate speech, the context and the factors that enable hate speech and how it influence the victims; to better understand the phenomenon contextually, Paz et al. (2020) argue that there should be studies conducted in different countries. Therefore, we propose to explore the lived experience of migrants (in New Zealand) on online hate speech in social media channels, and its implications for their wellbeing. The objectives of the study include: (i) deepening the understanding of online hate speech against migrants in NZ, (ii) identifying the social implications of online hate speech, and (iii) improving migrant well-being.

Following a comprehensive literature review, the empirical study will be carried out in two phases. Phase 1: Qualitative survey using open-ended questions will be conducted to collect data from migrants and refugees to understand their experience of online hate speech in social media. This qualitative survey will be used to inform the identification of recent incidents and toxic platforms to further investigate this issue in the context of New Zealand. Further to this, in this phase we will inquire about the influence of the online hate speech on the migrants’ wellbeing. Phase 1 data will be collected from respondents who identify themselves as migrants and are over the age of 18. Being organisational and management scholars, we will focus on employed migrants. We will aim to cover people of all colours. This will enable us to see the differences on terms of experiences of different migrant populations. Phase 2: will be to carry out as a computer-assisted data collection of social media content from a selected platform identified in phase 1. The platform, method, and type of analysis will be identified by the results of phase 1. It will provide a data-driven analysis of nuances of online hate speech against minorities in NZ, and its implications for migrant population.

Deepening the understanding of online hate speech is a crucial step towards improved automated detection and prevention of online hate speech (Fortuna and Nunes, 2018). The investigation will look into the perceptions of migrants on the extent of this issue through their experience and how it influences their wellbeing. Hate speech breeds hate and can lead to violence, poor integration amongst

communities and increase inequities. Understanding the impact of online hate speech and sharing it with researchers and the wider communities, may lead to investigate actions to decrease hate speech. Hearing the voices and stories of the migrant communities will provide a means of sharing their stories and perhaps enable to start the conversations regarding better integration between migrant and local communities. Better wellbeing means better resilience and healthier communities

Keywords: social media, online hate speech, migrants, well-being, lived experiences

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EFFECTS OF AI-POWERED HR TECH ON TEAM LEADERS' PERCEIVED SELF-DEVELOPMENT, WELL-BEING, AND THE INTERNAL BRAND

Yacine, Leyla; Karjaluoto, Heikki

Marketing department, Jyväskylä University School of Business and Economics, JSBE, Jyväskylä, Finland

ABSTRACT

A holistic approach to employee experience and well-being, digital transformation, continuous learning, and leadership development have become employer branding levers organizations can harness with their workforce amid the “Great Resignation” (Day *et al.*, 2021; Li *et al.*, 2021; Trenerry *et al.*, 2021; Larson and DeChurch, 2020; Salmi *et al.*, 2020). Especially team leaders’ (i.e., middle managers’) well-being and development can transform and redefine their roles so they can lead teams through organizational change (Henderikx *et al.*, 2022; Kaluza *et al.*, 2020). Internal branding –i.e., branding aimed at the existing workforce– of integrated well-being can support team leaders through perceived organizational support, training and development, organizational identification (Khan *et al.*, 2021; Kumar *et al.*, 2021; Itam *et al.*, 2020; Arasanmi and Krishna, 2019), and organizational trust (Yadav *et al.*, 2020) while assisting toward the achievement of both individual and organizational goals (Schmidt and Iglesias, 2021; Raj, 2020).

This research acknowledges the calls for monitoring internal branding effectiveness through well-being initiatives (Raj, 2020), studying cognitive assistants’ potential in leadership development (Larson and DeChurch, 2020), and adopting a processual study of co-creation in branding (Sarasvuo *et al.*, 2022). This study explores ten team leaders’ perceived self-development, well-being, and internal brand from their use of Leadership-as-a-Service (LaaS) through mixed methods to co-develop leadership and determine their intention to stay throughout the organizational deployment of LaaS. This research aims to expand the scarce scholar exploration of AI-powered HR systems (Cheng and Hackett, 2021) by developing the co-creative stream of internal branding as empowering, inclusive, and agile (Schmidt and Iglesias, 2021), thereby strengthening, expanding, and transforming organizational HRM (Kurek, 2021; Maurya *et al.*, 2021).

Keywords: Employee experience, Team leader well-being, Internal branding, HRM, Future of work, AI, HR tech, Leadership development, Algorithmic leadership, Organizational digitalization

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A STAKEHOLDER FRAMEWORK OF THE FOOTBALL INDUSTRY

Yiapanas, George; Thrassou, Alkis; Vrontis, Demetris

School of Business, University of Nicosia, Nicosia, Cyprus

ABSTRACT

RESEARCH CONTEXT

It is apparent that the football industry is rapidly becoming more affluent and stronger every day, involving a plethora of stakeholders (Mrkonjic, 2021), and at the same time, it is highly influential within society in many ways (Fernández-Villarino, 2021). The existing forward momentum presupposes the solidification of the existing business model (Buck and Ifland, 2022) through the appropriate synergies with the industry stakeholders (Perechuda and Čater, 2021). The relationship between a football club and its stakeholders, and how it shifts in a specific context, is one of the main critical strategic factors, which is a great concern for clubs (Cicut et al., 2017), that strive in a multifaced industry to remain competitive and sustainable. Consequently, it is imperative to comprehend the industry structures and identify the stakeholders.

RESEARCH AIM, VALUE AND METHODOLOGY

Although numerous researchers have already applied stakeholder theory to the field of football, they have all tended to focus on stakeholders as broad categories, overlooking the fact that various sub-categories exist as diverse entities that hold additional attributes. Moreover, the extant studies are partial and incomplete, creating a gap in the literature, as they analyse the industry's actors individually (Gerke et al., 2020; Fifka and Jaeger, 2020). The current study attempts to apply stakeholder theory to a wider range of individuals and groups, thus enhancing the theory itself in a context that, until now, was in its infancy. However, it must be taken into consideration that the theory cannot be applied unconditionally but refined according to the discipline and the specific context of the industry's characteristics.

Consequently, this research aims to theoretically identify the main football club stakeholder categories and their individual components and to develop a generic framework of stakeholder relationships from the club perspective.

This study significantly contributes to the football industry policymakers and practitioners a detailed analysis and robust knowledge of the relationships between the industry's stakeholders and the football clubs. In particular, the goals of each stakeholder are presented, helping practitioners appreciate the potential synergies and guiding them to build a constant relationship to strategically

develop the club, retain sustainability, and become competitive. Overall, the findings of this study provide industry practitioners with an in-depth understanding of how to manage the industry stakeholders.

Methodologically, the research relies on an extensive theoretical examination of stakeholder theory, through the explication and evaluation of its development over the last forty years, with a particular focus on the most seminal models of stakeholder management. Through this holistic strategic approach, the study theoretically identifies the main industry actors and develops a generic stakeholder framework.

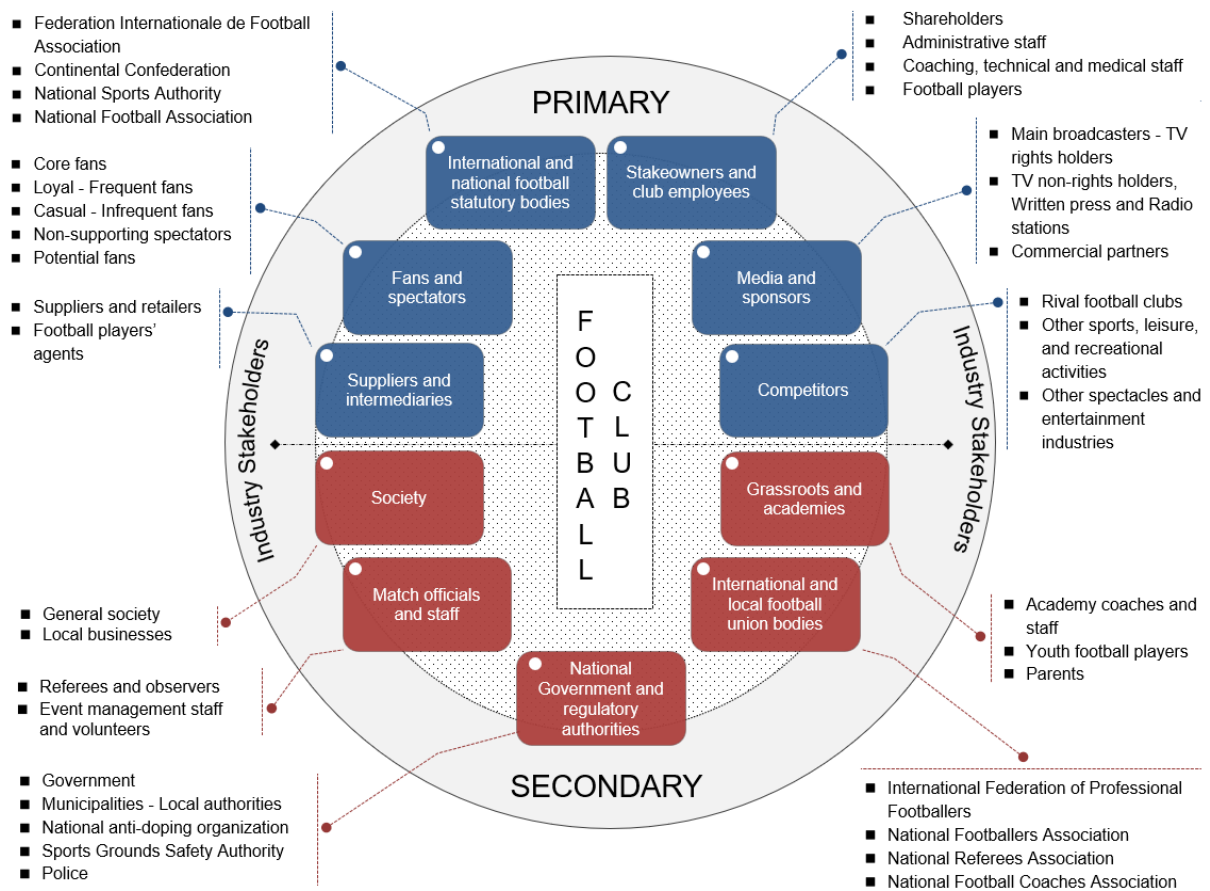
DELINEATION AND ELUCIDATIONS

Freeman's broad theory suggests specific characteristics to classify stakeholders; however, when mapping them with a strategic criterion in a multifaceted industry like football, the normal business-related relationships differ, and variations exist in terms of who the secondary stakeholders are (Freeman, 2010). The theory recognises that stakeholders can be every group or individual who affects or is affected by the organisation's objectives, policies, and actions (Freeman et al., 2010). When applying stakeholder theory to the football industry, it should always be taken into consideration that a large volume of actors is involved. A multifaceted industry like football is influenced by all the parties involved in the regulation, execution, and management of football activities (Kartakoullis et al., 2013), and it contains several stakeholders beyond football clubs, fans, and players.

Relationships between football clubs and their stakeholders, and how they shift in the specific context, demonstrate unique attributes, thus forming a unique mapping field (Yiapanas et al., 2018). The examined context fosters a variety of primary and secondary stakeholders who are either vital for the growth and sustainability of the club or can influence the primary relationship (Figure 1).

The primary stakeholders include those individuals or groups that are visible in terms of choices, opportunities, decisions, and value creation, enjoying a direct and contractual relationship with the football club. On the other hand, the secondary stakeholders involve the wider football environment and specifically those individuals or groups that sometimes are difficult to identify due to their inactivity and their indirect relationship with the club; however, they can interact and affect the primary stakeholders.

Figure 1: The stakeholder framework of the football industry



IMPLICATIONS

Undoubtedly each stakeholder has a distinctive role in the industry, and football clubs rely on them to achieve their goals. The findings of this research provide solid and valid foundations that could help both policymakers and practitioners appreciate the synergies and guide them through to develop and implement a set of principles that will enable them to manage their stakeholders by preserving reliable, positive, and constructive relationships.

Although numerous researchers have already applied stakeholder theory in the specific field, they all tend to focus on stakeholders as broad categories, overlooking the fact that various sub-categories exist as diverse entities. This research addressed stakeholder theory on a wider range of individuals and groups, enhancing this way the theory itself in a context that until now was in its infancy in terms of knowledge and the level of interaction

Keywords: Football industry, Strategic development, Stakeholder theory, Football management, Stakeholder management, Stakeholder framework, Stakeholder synergy

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LEGITIMACY CHALLENGES IN THE HEALTHCARE ECOSYSTEM: DATA MANAGEMENT IN THE ERA OF GDPR.

Zhang, Julia; Gisca, Oxana; Koivumäki, Timo; Ahokangas, Petri

Martti Ahtisaari Institute, Oulu Business School, University of Oulu, Oulu, Finland

ABSTRACT

Data, together with Artificial Intelligence (AI) analytics, provide a multitude of benefits, presenting a great potential to transform healthcare (Koivumäki et al., 2017, Mukherjee and Singh, 2020). However, at the same time, secondary use of patients' data for commercial purposes raises manifold barriers and challenges (Abouelmehdi et al., 2018). The concerns primarily relate to privacy and security, highlighting technology-centric, bottom-up approaches not adequate for determining security and privacy requirements (Houlding, 2011).

Specific challenges to ensuring security and privacy arise when the patients' data must be accessible within the ecosystem where multiple heterogeneous actors are involved. The ecosystem can be viewed as a dynamic, multi-layer social network that consists of actors with different attributes, decision principles and beliefs (Tsujimoto et al., 2018). For example, university-industry collaborative projects, where diverse actors aim to develop novel AI-based solutions that provide value for healthcare, represent an ecosystem. Considering the different roles and responsibilities of the ecosystem stakeholders, there is a need for a clear understanding and establishment of shared principles allowing to extract value from the data in parallel with safeguarding patients' privacy.

The need for new ecosystem-oriented AI development and big data platforms (Xu et al., 2019) was previously discussed in the smart building context and helped to understand the potential development of AI from both technology and business ecosystem perspectives. Similarly, a congruent ecosystem is required for value creation and capture arising from AI developments (Gommes et al., 2018) based on secondary use of patients' data. As data serves as a primary resource across the data sharing network, limitations arising from a clear implementation mechanism of the EU regulatory provisions such as the 2018 General Data Protection Regulation (GDPR) and those adopted at the national level may impact value realization and opportunities for innovation. Lack of regulatory guidelines, best practices, and clear instructions on the implementation of the regulatory provisions (Sanchez-Rola et al., 2019) create challenges to legitimacy, that is "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, beliefs, and definitions" (Suchman, 1995, pp. 574). Yet, the challenges to value realization from secondary use of healthcare data arise not only from the regulation itself but also from stakeholders' understanding, clarifications on data ownership and access, and the use of technical

infrastructure. Thus, the ecosystem identity, which is a “set of mutual understandings among ecosystem participants regarding central, enduring, and distinctive characteristics of the ecosystem value proposition” (Thomas and Ritala, 2021, pp. 3), is essential to ecosystem legitimacy attainment and value realization.

This paper explores the legitimacy challenges within the healthcare ecosystem and discusses how those can be mitigated. Considering that the GDPR was introduced only four years ago, there is a need to explore the actual impact of the privacy regulation on data management practices and ecosystem legitimacy. Although privacy regulations are primarily designed to protect individuals from the misuse of their personal data with an aim to provide them with more control over it, implementation of the legislation may have certain adverse effects on businesses (Teatini and Matinmikko-Blue, 2020) and value realization, especially when it concerns health data. Privacy in the healthcare context is often defined as “having the ability to protect sensitive information about personally identifiable healthcare information” (Abouelmehdi et al., 2018, pp. 4). It focuses on governance and the use of patients’ personal data by establishing authorization requirements and making policies safeguarding the patients’ information from other parties. Scope of GDPR regulation covers personal data that is considered any information identifiable to an individual, directly or indirectly (Culnan and Bies, 2003), such as an address, audio, online identifiers, but also biometric data or health specific data like scans or x-rays. Thus, despite the digitization of information on a massive scale and the digital infrastructures providing tremendous opportunities for healthcare, data access and processing may be challenging considering the privacy of the patients’ data (Koivumäki et al., 2017). The primary challenges in relation to data in collaborative projects pertain to anonymization difficulties due to the high specificity and importance of personal factors that may influence machine learning and meaningful analysis (Emam and Malin, 2015).

Drawing on the challenges previously highlighted in the literature and taking a closer look at the empirical setting, this study employs a qualitative research method. The research findings are derived from an analysis of the data acquired during multiple workshops with the core stakeholders within the Finnish university-industry collaborative involving secondary use of patients’ data, including industry lawyers, software developers, project managers, hospital and university representatives. The exploratory approach has been selected to obtain a holistic yet in-depth understanding of the issues by analyzing the perspectives of various stakeholders in the data-sharing ecosystem. Such an approach brings a unique, ecosystemic perspective in researching the legitimacy challenges that provide a multilateral understanding of the underlying issues, opening broader insights and modes of thinking to address the identified challenges. From the theoretical perspective, it offers intellectual insights,

fostering the reconsideration of the dominant assumptions in the field and striving for novel directions in research on legitimacy.

Considering that theories need to have an empirical backup in order to be seen as credible and valuable for illuminating the empirical phenomena (Sandberg and Alvesson, 2020), this paper provides an empirical assessment of data management challenges, highlighting the limitations of secondary use of medical data in university-industry collaborations, providing valuable theorizing insights on the legitimization of newness. It points out that studying legitimacy from the perspective of a single entity may be insufficient to capture complex and interrelated issues that are present in regulatory-established data management practices. The contributions of this study are two-fold. Firstly, this study extends the research on legitimacy by highlighting ecosystem legitimacy attainment as essential for ecosystem vitality and extracting value from the data in collaborative projects. That means the legitimacy of individual entities within the project is insufficient to legitimate the entire project, illustrating ecosystem identity as a requirement for ecosystem legitimacy (Thomas and Ritala, 2021). Secondly, by providing a framework of ecosystem legitimacy challenges, the study offers a novel and condensed view of the significant issues within the collaborative projects, illustrating the regulatory impact on the business practices.

Although the limited sample size and Finnish market context do not allow broader generalization of the findings, the study points out aspects critical for industry-university collaborations within the healthcare ecosystem. For the regulators, this research provides valid signal points regarding the over-protecting behaviour of the stakeholders in fear of sanctions arising from aspects such as a lack of straightforward clarifications and guidance on data sharing principles. Bringing awareness to the identified issues is essential considering the immense impact of regulatory actions on innovation, prosperity and competitiveness in EU member countries. For the businesses, the provided framework of ecosystem legitimacy challenges serves as a blueprint for considerations and discussions when engaging in collaborative projects.

Keywords: Data, Legitimacy, GDPR, Privacy, Ecosystem, Healthcare

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CONSUMER ENGAGEMENT AND NEW TECHNOLOGIES: A SYSTEMATIC LITERATURE REVIEW

Zagni, Luca Matteo; Baima, Gabriele

Department of Management, University of Turin, Turin, Italy

ABSTRACT

Digital world has become increasingly crucial in people's lives during the last few years. The integration between online and offline is becoming increasingly widespread as a result of this expanding trend, blurring the lines of these two contexts. In this sense, firms can exploit new technologies in the marketing process leading an evolved consumer engagement with brands (Hollebeek et al., 2014).

Over the years, consumer engagement (CE) has been defined as resources involvement in brand interactions (Hollebeek et al., 2019) and a psychological state (Brodie et al., 2011) in a multidimensional perspective, which includes the cognitive, emotional and behavioral dimensions (Dessart et al., 2016). Despite advances in conceptual (Kumar et al., 2019) and empirical (Leckie et al., 2016) research on CE, knowledge of this crucial construct remains only partially investigated. Previous contributions, investigated CE in several sectors such as hospitality/tourism, public transportation, nursing homes, gyms and retail to name a few (Grewal et al., 2017; Loureiro and Sarmiento, 2019). However, increasing in complexity of consumer engagement (CE) related to new technologies such as VR and AR, has gained the attention of both academics and managers, thereby making understanding the phenomenon a relevant topic for research. Considering online context, studies have focused on the use of new technologies such as virtual/augmented/mixed reality, gamification, mobile apps, digital content marketing (Hollebeek et al., 2019; Leclercq et al., 2020). Moreover, it is assumed that developing and exploiting new technologies would lead to an evolution of the ability to generate CE. It is therefore interesting to investigate how new technologies may affect CE, both positively and negatively (Clark et al., 2020). Despite studying online and offline contexts, research contributions have focused on a single context at once. In this regard, it would be interesting to explore the relationship between the two contexts.

In order to advance the conceptual and managerial understanding of CE with new technologies, the study synthesizes the literature through a systematic literature review approach by reviewing 35 articles.

From preliminary findings consumer engagement with new technologies has been explored primarily within the context of tourism (Willems et al., 2019) and online retail (McLean and Wilson, 2019). Using new technologies consumer experiences are more immersive which also lead higher human sensory

stimulation (Flavián et al., 2019; Willems et al., 2019). Moreover, research contributes investigate how new technologies (VR and AR) affect consumer engagement before purchases (Jessen et al., 2020) and consumer behavioral intention and the ability of digital platforms to generate CE towards brands (Heller et al., 2021). AR features impact utilitarian value, hedonic value, perceived risk and experiential value, leading to positive attitude and behavioral intentions, in which the consumer experience plays a mediating role (Kumar, 2021). Furthermore, through augmented reality, consumers develop positive attitudes, which foster purchase intention through brand attitude (Sung et al., 2022). This enhanced engagement allows consumers also to develop skills, such as creativity (Jessen et al., 2020), that influence consumer satisfaction. On the other hand, there are less contributions about the use of virtual reality that allows consumers to have immersive experiences affecting behavioral intention (Lee et al., 2020), favoring hedonistic experiences than utilitarian ones during purchase (Peukert et al., 2019) given the technological limitation.

Future lines on CE with new technologies, can be focused on exploring the effects of CE on consumers' personal growth. This could be investigated from a resource employed perspective following the definition of CE provided by Hollebeek et al. (2019) and Kumar et al. (2019). Considering the multidimensional perspective of CE, it might be possible to identify the resources that consumers employ and whether there is a subsequent transposition of them in both contexts (online and offline), leading to consumer empowerment and personal growth. Understanding consumer resources is relevant to allow managers to be better equipped in managing marketing mix aspects with new technologies affecting consumer interaction with brands (Hollebeek et al., 2014).

Keywords: consumer engagement, customer engagement, virtual reality, augmented reality, VR, AR.

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TRANSFORMATION FROM BUSINESS TO PERSONAL STRATEGY WITH SPECIAL ATTENTION TO MANAGERIAL RETIREMENT

Zif, Jehiel

Coller School of Management, Tel Aviv university

ABSTRACT

The purpose of this paper is to explore a transformation from business to personal strategy. This is accomplished by reviewing common concepts of business strategy and applying them to key issues faced by seniors. Special attention is given to managers in the golden age, following retirement. They are usually familiar with constructs of business strategy and therefore may find the transformation to personal life useful.

In similarity with business situations people need to think if they want to plan their retirement life, or simply adjust to unexpected and developing circumstances. There is value in deliberate planning and there is value in staying flexible. (Mintzberg and Waters 1985; Christensen 2010). The paper points out how the two approaches can be effectively combined.

The starting point of business as well as personal strategy is asking what you want. "To manage a business is to balance a variety of needs and goals. And this requires multiple objectives." (Drucker 1974). The building blocks are borrowed from the Balanced Score Card methodology. (Kaplan and Norton 1996). The strategy consists of the following set of linked multiple objectives aimed at an overall personal goal of life satisfaction (Seligman 2011, Mandel for Kahneman 2018).

1. Financial well-being
2. External Relationships: Family, friends, community, external engagement and travel.
3. Internal processes: Good health, joy of living, internal engagement.
4. Learning and Growth: personal development.

With multiple objective we always have to set priorities. Retirement and aging require a rethinking of the relative importance of goals. With modified priorities, new projects are needed to accomplish the revised objectives.

In similarity with stages of a product life cycle, three retirement stages, in addition to a pre-retirement phase, have also been identified: The celebration stage, the comfort stage and the wind-down stage (Protective life. Drake 2022). Each of these stages will likely lead to a revision of priorities. Right after leaving the world of full time work, many individuals have reasonable good health, high energy and an ability to make significant changes in their life. External engagement, travel and joy of living, are likely to get high priority during the celebration stage. Many can see the first stage as an opportunity

for joy, as well as learning and growth. Retirees may ponder financial spending between the short and the long term.

The comfort stage could be characterized by a clearer realization of aging. Priority is likely to shift to health maintenance, to family and friends, to internal engagement and to peaceful forms of joy. In the wind-down stage, after many years in retirement, serious occurrences are forcing major adjustments. Health will be a major concern, mobility is likely to be limited, for some retirees financial and accommodation issues would be critical. Dependence on family relationships will likely increase, and leaving a legacy could get more attention.

But no matter how retiring managers think and shape their strategy, at some stage, they could face life challenges under more difficult personal and external conditions than they are used to.

There is an inclination for aging people to do things the way they were always done with difficulty to learn new ways. Most tend to become more rigid with age, relying on familiar habits and behaviors. This is why change readiness is so critical. The approach to change is constructed by three variables: trigger identification, preparation for action and mode of action (Timmor and Zif 2010, Zif 2016, Zif 2021). Early recognition of threats and opportunities is emphasized. A quick and proper response could frequently be critical. At an older age it might be too costly in time and resources to search for the most optimal solution. Some ideal options may not be available any more. The concept of a “good enough” solution is a useful transformation from business strategy (Christensen 1997).

We propose that conceiving together personal strategy and change readiness is a logical way to combine deliberate planning with flexibility to adjust to unanticipated events.

Keywords: Personal strategy, Change Readiness, Retirement, Good Enough, Response Time, Balancing, Objectives, Signals.

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COPING STRATEGIES FOR DISABILITIES ENTREPRENEURS DURING POST COVID-19

Zila-Zainal, Abidin¹; Azahari, Jamaludin²; Muhammad, Omar²

¹Institute of Graduate Studies, Kolej Universiti Poly-Tech MARA, Kuala Lumpur, Malaysia

²Faculty of Business, Accountancy and Social Sciences, Kolej Universiti Poly-Tech MARA, Kuala Lumpur, Malaysia

ABSTRACT

A recent study has emerged on how entrepreneurs are navigating and maneuvering in light of the current Covid 19 pandemic that has affected most economies around the world. Online platforms and logistics-related businesses are growing rapidly worldwide (Hasanat et al., 2020). However, Liguori and Winkler (2020) indicated the global influence of entrepreneurs will continue to grow as their adaptive characteristics increase their reaction during crises. Because of their ability to respond and adapt to market needs, entrepreneurs are believed to be more innovative and risk-taking than non-entrepreneurs (Ratten, 2020). However, studies on how the Covid 19 pandemic has affected entrepreneurs with disabilities (EWD) have been considered unfavourable and ignored, which the Covid 19 pandemic has caused an adverse effect on the economy of entrepreneurs with disabilities (EWD) as well. Businesses have been hit hard by financial problems, supply chain disruptions and emotional damage. Entrepreneurs with disabilities (EWD) face multiple problems and more difficulties than ordinary entrepreneurs. For a long time, people with disabilities have often been considered unproductive citizens who cannot carry out their duties and responsibilities perfectly, thus causing their rights to be neglected. They are seen as too dependent on government support and grants. Studies show that most businesses do not meet the needs of employees with disabilities. Therefore, self-employment can offer the best alternative for this group but they feel that the current system is short on inclusive programs, mentors, tailored networks and educational opportunities. Government agencies and current disability employment service models are also less likely to consider self-employment as a viable option for clients with disabilities. Therefore, in this research, the researchers will use qualitative methods to identify a small group of entrepreneurs with disabilities for this is a preliminary study. A framework will be developed after conducting the thematic analysis. In the end, recommendations and action plans will be proposed for stakeholders to consider for the benefit of these underprivileged communities.

Keywords: Entrepreneurs, Entrepreneurs with Disabilities (EWDs), Covid-19 pandemic, SMEs, Business Strategy, Underprivileged Community.

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