



**17th Annual Conference of the  
EuroMed Academy of Business**

**Global Business Transformation in a Turbulent Era**

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# **17th Annual Conference of the EuroMed Academy of Business**

CONFERENCE READINGS

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## **Global Business Transformation in a Turbulent Era**

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## FOREWORD

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

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

The conference attracts hundreds of leading scholars from top universities, as well as principal executives and politicians from around the world. Participation includes presidents, prime ministers, ministers, company CEOs, presidents of chambers of commerce, mayors, and other leading figures.

This year, the conference attracted over 230 people from more than 30 different countries. Academics, practitioners, researchers, and doctoral students from around the world submitted original papers for conference presentations and publication in this Book of Proceedings. All papers and abstracts underwent a double-blind review process. The result of these efforts produced empirical, conceptual, and methodological papers and abstracts involving all functional areas of business.

## **ACKNOWLEDGEMENT**

Many individuals and organizations played crucial roles in the successful outcome of the 17th Annual Conference of the EuroMed Academy of Business. We extend special thanks to the Conference Chair, Dr. Iacopo Cavalini, and the organizing committee from the University of Pisa, Italy, for their exceptional work. We also express our appreciation to the conference hosting institution, as well as our sponsors and supporters.

A successful conference of this magnitude would not be possible without the professional work and special cooperation of the Track Chairs and Reviewers. Their efforts in reviewing and commenting on the numerous papers submitted to this conference were invaluable. Special thanks also go to the Session Chairs and Paper Discussants, whose interventions and discussions significantly contributed to the success of the conference.

Last but not least, we acknowledge all those who submitted and presented their work at the conference. Their valuable and cutting-edge research has greatly contributed to the continued success of the conference.

## TABLE OF PAPERS

|   |            |
|---|------------|
| THE DIGITAL TRANSFORMATION IN THE BANKING SECTOR. A FOCUS ON ITALIAN RETAIL BANKS.....  | 30         |
| <i>Angelini, Antonella<sup>1</sup>; Graziani, Paolo<sup>2</sup>.....</i>  | <i>30</i>  |
| SOCIAL BUSINESS ENTREPRENEUR'S MINDMAP: COGNITIVE ELEMENTS AND THE DEVELOPMENT OF ENTREPRENEURIAL OPPORTUNITIES.....                                      | 43         |
| <i>Ardigó, Emanuelle Beatriz Westphal; Behling, Gustavo; Lenzi, Fernando César; Rossetto, Carlos Ricardo; Ardigó, Carlos Marcelo.....</i>                 | <i>43</i>  |
| EXPLORING THE INTERSECTION BETWEEN LUXURY FASHION AND SUSTAINABILITY. A BIBLIOMETRIC ANALYSIS .....   | 60         |
| <i>Augurio, Alessandro<sup>1</sup>; Castaldi, Laura<sup>1</sup>; Melanthiou, Yioula<sup>2</sup>.....</i>  | <i>60</i>  |
| THE IMPACT OF FAMILY ENVIRONMENT AND ENTREPRENEURIAL INTENTION THROUGH UNIVERSITY ENVIRONMENT AMONG UNIVERSITY STUDENTS IN SPAIN.....                     | 69         |
| <i>Avolio, Beatrice<sup>1</sup>; Prados-Peña, Ma. Belén<sup>2</sup>; Fuentes, María del Mar<sup>2</sup>.....</i>  | <i>69</i>  |
| TITLE: "EXPLORING THE TECHNOLOGICAL TRANSFORMATION OF HALAL CERTIFICATION: ENHANCING TRANSPARENCY, RELIABILITY, AND SUSTAINABILITY IN THE INDUSTRY" ..... | 95         |
| <i>Biancone, Paolo Pietro; Secinaro, Silvana Filomena; Chmet, Federico; Tamburrini, Rita .....</i>  | <i>95</i>  |
| FROM CLASSROOM TO WORKPLACE: ASSESSING EMPLOYMENT OUTCOMES FOR GRADUATES WITH ICT AND DIGITAL SKILLS FROM EUROPEAN UNIVERSITIES .....                     | 108        |
| <i>Del Val Roman, Jose Luis<sup>1</sup>; Chemli, Samiha<sup>2</sup>; Díez, Fernando<sup>3</sup>; .....</i>  | <i>108</i> |
| EUROPEANS' INTENTIONS TO BUY COSMETICS AND DETERGENTS CONTAINING RECYCLED CO <sub>2</sub> : AN EXPANDED TPB APPROACH.....                                 | 122        |
| <i>Delistavrou, Antonia; Tilikidou, Irene; Papaioannou, Eugenia .....</i>   | <i>122</i> |
| LEADERSHIP DYNAMICS IN SILENCE MANAGEMENT: UNVEILING THE MECHANISM OF ORGANIZATIONAL CITIZENSHIP BEHAVIOR.....  | 134        |
| <i>Elama, Anisha; Upadhyay, Reeti; Garg, Pooja; Sahasrabudhe Swarali .....</i>  | <i>134</i> |
| GREEN AND SUSTAINABLE ENTREPRENEURSHIP IN THE FOOTWEAR INDUSTRY: THE PORTUGUESE EXPERIENCE.....   | 152        |
| <i>Escórcio, Ana Karina<sup>1</sup>; Reis, Beatriz<sup>1</sup>; Portela, Joana<sup>1</sup>; Rua, Orlando Lima<sup>1,2,3,4</sup>.....</i>                  | <i>152</i> |

|   |     |
|---|-----|
| FINANCIAL AND NONFINANCIAL ANNUAL COMPANY REPORT INFORMATION – A BIBLIOMETRIC ANALYSIS .....  | 166 |
| <i>Esposito, Paolo; Witkowska, Ewa Anna</i> .....   | 166 |
| ECOSYSTEMS IN LIFE SCIENCES: A BIBLIOMETRIC ANALYSIS .....  | 179 |
| <i>Fiorini, Niccolò; Pucci, Tommaso; Zanni, Lorenzo</i> .....   | 179 |
| LINGUISTIC STRATEGIES AND GOVERNANCE IMPLICATIONS IN SUSTAINABILITY REPORTING .....   | 188 |
| <i>Floris, Michela<sup>1</sup>; Kochkina, Natalia<sup>2</sup>; Macchia, Silvia<sup>1</sup></i> .....  | 188 |
| DOES CORPORATE REAL ESTATE INVESTMENT MATTER FOR RETAIL COMPANIES? EVIDENCE AFTER THE PANDEMIC .....  | 201 |
| <i>Gibilaro, Lucia<sup>1</sup>; Mattarocci, Gianluca<sup>2</sup></i> .....  | 201 |
| THE ASYMMETRIC EFFECTS OF MULTI-ATTRIBUTES EXTRACTED FROM ONLINE REVIEWS ON HOTEL RATINGS: THE ROLE OF CULTURE.....   | 216 |
| <i>Giovanis, Apostolos<sup>1</sup>; Athanasopoulou, Pinelopi<sup>2</sup>; Papakyriakopoulos Dimitrios<sup>1</sup>; Choustoulakis, Emmanouil<sup>2</sup></i> ..... | 216 |
| ALIGNING HOSPITALITY: THE CONTRIBUTION OF HOTELS TO SUSTAINABLE ECONOMIC GROWTH AND DECENT WORK IN SPAIN .....  | 223 |
| <i>Goytia Prat, Ana; Chemli, Samiha</i> .....   | 223 |
| BEYOND CASH: ANALYZING COVID-19'S INFLUENCE ON US DIGITAL PAYMENT ADOPTION .....  | 241 |
| <i>Graziano, Eloira Anna<sup>1</sup>; Musella, Flaminia<sup>1</sup>; Petroccione, Gerardo<sup>2</sup></i> .....   | 241 |
| ARE GEN Z TRAVELLERS REALLY SUSTAINABLE? THE PERCEPTION OF SUSTAINABILITY IN HOTEL CHOICES.....   | 257 |
| <i>Grechi, Daniele; Minazzi, Roberta</i> .....  | 257 |
| DETERMINANT ATTRIBUTES IN THE SMARTPHONES PURCHASE DECISION: AN ANALYSIS OF THE Z AND X GENERATIONS .....   | 266 |
| <i>Hoeckesfeld, Lenoir<sup>1</sup>; Lenzi, Fernando César<sup>2</sup>; Behling, Gustavo<sup>2</sup>; Rossetto, Carlos Ricardo<sup>2</sup></i> .....               | 266 |
| SSAFETY AND SECURITY IN A TOURISM DESTINATION: PREVENTION OF CRIME AND THE SELF-PROTECTIVE BEHAVIOUR IN ZADAR COUNTY (CROATIA).....                               | 282 |
| <i>Klarin Tomislav<sup>1</sup>; Krce Miočić Božena<sup>1</sup>; Marić Ivana<sup>2</sup></i> .....   | 282 |



|  |     |
|--|-----|
| LESSONS IN BUSINESS LONGEVITY FROM KONGO GUMI CO. LTD.: THE WORLD'S OLDEST FAMILY BUSINESS.....  | 296 |
| <i>Kolluru, Mythili<sup>1</sup>; Uecker, Chinue<sup>2</sup></i> .....  | 296 |
| SUPPORT OF FEMALE ENTREPRENEURSHIP AT GERMAN UNIVERSITIES – A QUALITATIVE ANALYSIS OF SUPPORT CONCEPTS-.....   | 305 |
| <i>Ladwig, Désirée H.<sup>1</sup>; Wohler, Marleen J.<sup>1</sup>; Domsch, Michel E.<sup>2</sup></i> .....   | 305 |
| EXPLORE THE INFLUENCE OF DIGITAL MARKETING IN THE ENVIRONMENTAL REVERSE SOCIALIZATION OF THE FAMILY; A COMPARATIVE STUDY BETWEEN GREECE AND GERMANY..... | 320 |
| <i>Lenakaki, Maria<sup>1</sup>; Kapoulas, Alexandros<sup>1,2</sup>; Tudor, Edu<sup>3</sup></i> .....   | 320 |
| ASSESSING THE BENEFITS OF A BLOCKCHAIN-BASED WINE SUPPLY NETWORK TO COMBAT WINE FRAUD.....   | 333 |
| <i>Liu, Liu; Kramer, Michael Paul; Hanf, Jon H.</i> .....  | 333 |
| CARTHAGE UNVEILED: “TRANSFORMING HERITAGE TOURISM THROUGH DOURB'IA IN A TURBULENT GLOBAL LANDSCAPE” .....  | 350 |
| <i>Mahouachi, Salma<sup>1</sup>; Hassoumi, Ines<sup>2</sup>; Bahri-Ammari, Nedra<sup>3</sup>; Cherif, Ameni<sup>4</sup></i> .....                        | 350 |
| ADVANCING RESEARCH ON SUSTAINABILITY IN INTERNATIONAL BUSINESS: A SYSTEMATIC LITERATURE REVIEW .....   | 366 |
| <i>Matarazzo, Michela; Celentano, Alfredo</i> .....  | 366 |
| ESG PERFORMANCE AND FIRM VALUE: EVIDENCE FROM EU LISTED FIRMS.....   | 379 |
| <i>Mehmood, Asad<sup>1</sup>; Mahmood, Atif<sup>2</sup>; Terzani, Simone<sup>2</sup>; De Luca, Francesco<sup>1</sup></i> .....                           | 379 |
| INVESTIGATING THE RELATIONSHIPS AMONG THE EFQM MODEL 2020 CRITERIA THROUGH REGRESSION ANALYSIS.....  | 396 |
| <i>Mitsiou, Dimitra<sup>1</sup>; Zafiropoulos, Kostas<sup>2</sup></i> .....  | 396 |
| SYSTEMATIC LITERATURE REVIEW ON THE APPLICATION OF THE EFQM MODEL AS A FRAMEWORK IN QUANTITATIVE RESEARCH IN THE CONTEXT OF THE GREEK PUBLIC SECTOR..... | 410 |
| <i>Mitsiou, Dimitra<sup>1</sup>; Zafiropoulos, Kostas<sup>2</sup></i> .....  | 410 |
| GLOBAL CITIES FROM THE GLOBAL SOUTH .....  | 424 |
| <i>Montoya, Miguel A.<sup>1</sup>; Kaltenecker, Evodio<sup>2</sup>; Rodriguez-Marin, Mauro<sup>3</sup>; Lemus, Daniel<sup>4</sup></i> .....              | 424 |

|  |     |
|--|-----|
| CROSS-BORDER M&AS AND R&D INVESTMENT: THE ROLE OF FAMILY OWNERSHIP .....   | 444 |
| <i>Ossorio, Mario</i> .....  | 444 |
| GRADES TO GAINS: THE ROLE OF GPA IN CULTIVATING ENTREPRENEURIAL INTENTIONS .....   | 451 |
| <i>Palalic, Ramo; Razzak, Muhamad Rezaur; Al Riyami, Said; Mekic, Ensar</i> .....  | 451 |
| ENTREPRENEURIAL JOURNEYS: A SYSTEMATIC REVIEW OF FEMALE MIGRANT ENTREPRENEURSHIP .....   | 466 |
| <i>Palmas, Giulio</i> .....  | 466 |
| EXPLORING GREEN BOND MARKET IN INDIA: GROWTH CHALLENGES, INFORMATION ASYMMETRY AND THE WAY FORWARD.....  | 480 |
| <i>Rajhans, Rajni Kant; Rajhans, Kirti</i> .....   | 480 |
| HOST SCALING AND REVENUE MANAGEMENT: IS THERE A LINK? .....  | 498 |
| <i>Sainaghi, Ruggero<sup>1</sup>; Abrate Graziano<sup>2</sup></i> .....  | 498 |
| THE ECONOMIC EFFECTS OF THE WAR BETWEEN ISRAEL AND HAMAS FROM OCTOBER 2023 THROUGH APRIL 2024 ON THE ECONOMIES OF EGYPT, THE WEST BANK, LEBANON, GAZA AND ISRAEL ..... | 510 |
| <i>Schein, Andrew</i> .....  | 510 |
| HAPPY COUPLES – HAPPY SMART CITIES? WILL ONLINE DATING PLATFORMS INCREASE HAPPINESS IN SMART CITIES? .....   | 521 |
| <i>Schinzel, Ursula</i> .....  | 521 |
| INNOVATION ACROSS CULTURES: EXPLORING THE INTERSECTION OF INTERNATIONAL ENTREPRENEURSHIP, TECHNOLOGIES, AND INTERCULTURAL DYNAMICS.....                                | 539 |
| <i>Secinaro, Filomena Silvana<sup>1</sup>; Oppioli, Michele<sup>1</sup>; Demarchi, Lara<sup>1</sup>; Novotny, Ota<sup>2</sup></i> .....                                | 539 |
| ACCRUAL ACCOUNTING IN ITALIAN MUNICIPALITIES. OPPORTUNITIES AND PROBLEMS.....  | 552 |
| <i>Serluca, Maria Carmela; Comite, Ubaldo</i> .....  | 552 |
| INTEGRATED PLAN OF ACTIVITIES AND ORGANIZATION (PIAO) AND PUBLIC VALUE, A SYNERGY WITH DIFFERENT INTERPRETATIONS.....  | 564 |
| <i>Simoni, Stefania<sup>1</sup>; Russo, Salvatore<sup>2</sup></i> .....  | 564 |
| PAST TRENDS AND FUTURE DIRECTIONS IN GREEN HUMAN RESOURCE MANAGEMENT RESEARCH: A BIBLIOMETRIC ANALYSIS .....   | 578 |

|   |     |
|---|-----|
| <i>Sungaile, Ugne; Stankeviciene, Asta</i> .....  | 578 |
| EVALUATING DIGITAL SUSTAINABILITY IN EUROPE: ECONOMIC, SOCIAL, AND ENVIRONMENTAL DIMENSIONS .....   | 589 |
| <i>Testa, Ginevra<sup>1</sup>; Ciacci, Andrea<sup>2</sup>; Ivaldi, Enrico<sup>3</sup>; Penco, Lara<sup>4</sup></i> .....                                | 589 |
| RISK ASSESSMENT FOR SUSTAINABLE INVESTMENTS.....  | 602 |
| <i>Toraşan, Süleyman<sup>1,3</sup>; Scalise, Vittoria<sup>2</sup>; Schittenhelm, Andreas<sup>3</sup>; Pislá, Adrian<sup>1</sup></i> .....               | 602 |
| CHANGES IN THE PUBLIC POLICY OF CULTURAL AND CREATIVE INDUSTRIES AND IN THE CULTURAL BEHAVIOUR CAUSED BY COVID 19 PANDEMIC IN THE SLOVAK REPUBLIC ..... | 616 |
| <i>Vitáliřová, Katarína<sup>1</sup>; Rojıková, Darína<sup>2</sup>; Vaňová, Anna<sup>1</sup>; Dvořák, Jaroslav<sup>3</sup></i> .....                     | 616 |
| KEY FEATURES FOR SUSTAINABLE DEVELOPMENT STRATEGY OF THE POLANA BIOSPHERE RESERVE .....   | 631 |
| <i>Vitáliřová, Katarína<sup>1</sup>; Vavrúřová, Mária<sup>1</sup>; Špulerová, Jana<sup>2</sup></i> .....  | 631 |
| KNOWLEDGE MANAGEMENT CAPABILITY, INNOVATION MANAGEMENT CAPABILITY, QUALITY MANAGEMENT, AND SUSTAINABLE PERFORMANCE: DEVELOPING A CONCEPTUAL MODEL ..... | 646 |
| <i>Xanthopoulou, Styliani; Tsiotras, George; Kessopoulou, Eftychia</i> .....  | 646 |

## TABLE OF ABSTRACTS

|  |     |
|--|-----|
| INJECTIVE BLOCKCHAIN IN THE AGRI-FOOD INDUSTRY: BRIDGING GAPS AND UNLOCKING UNTAPPED POTENTIAL.....  | 655 |
| <i>Adamashvili, Nino<sup>1</sup>; Patsatsia, Giorgi<sup>2</sup>; Jenna Peterson<sup>3</sup>; Galati, Antonino<sup>1</sup></i> .....                            | 655 |
| SUCCESSFUL FUND ACQUISITION FROM BUSINESS ANGELS: EMPOWERING START-UP ENTREPRENEURS.....   | 658 |
| <i>Adisornphankul, Thitiwat; Eng, Teck-Yong; Tih, Sio-Hong</i> .....   | 658 |
| TOWARDS BEHAVIORAL TRANSFORMATION INSPIRED BY PANDEMICS .....  | 660 |
| <i>Adomaviciute - Sakalauske, Karina; Urbonavicius, Sigitas</i> .....  | 660 |
| CHARACTERISTICS OF AGRICULTURAL LAND AND MARKET PRICES: A SYSTEMATIC LITERATURE REVIEW .....   | 663 |
| <i>Agosta, Martina; Di Franco, Caterina Patrizia; Schimmenti, Emanuele; Ascuito, Antonio</i> .....   | 663 |
| USING WEB SCRAPING FOR BUSINESS MARKET RESEARCH IN THE TRAVEL INDUSTRY ....  | 668 |
| <i>Ahmadzai, Sameera; Endress, Tobias</i> .....  | 668 |
| DRIVERS OF THE ADOPTION OF CIRCULAR ECONOMY PRACTICES AMONGST TOURISTS IN A MATURE NATURE-ORIENTED DESTINATION: CASE STUDY ON THE ARCHIPELAGO OF MADEIRA ..... | 672 |
| <i>Almeida, António<sup>1</sup>; Franco, Mara<sup>2</sup></i> .....  | 672 |
| A SYSTEMATIC REVIEW OF THE DIVERSITY OF BEHAVIORAL FACTORS INFLUENCING SUSTAINABLE CONSUMPTION AT THE NEXUS WITH IMPULSIVE BUYING BEHAVIOR.....                | 675 |
| <i>Amber, Elena; Papsolomou, Ioanna; Thrassou, Alkis</i> .....   | 675 |
| SHAPING NEW PATHWAYS: INNOVATION AND PERFORMANCE IN SMES.....  | 677 |
| <i>Antenzio, Ludovica; Di Berardino, Daniela</i> .....   | 677 |
| SUSTAINING SUSTAINABILITY: WHAT MAKES IT DIFFICULT FOR CONSUMERS TO SUSTAIN SUSTAINABLE FOOD PRACTICES .....   | 681 |
| <i>Apostolidis, Chrysostomos<sup>1</sup>; Rodrigo, Padmali<sup>2</sup>; Singh, Pallavi<sup>3</sup></i> .....   | 681 |
| INFLUENCER MARKETING: NECESSARY CONDITIONS ANALYSIS .....  | 684 |
| <i>Araújo, Pedro<sup>1</sup>; Franco, Mara<sup>2</sup>; Meneses, Raquel<sup>1</sup></i> .....  | 684 |
| SATISFYING HOTEL CUSTOMERS ACCORDING TO THEIR CULTURE: AN ANALYSIS OF ONLINE REVIEWS.....  | 687 |

|   |     |
|---|-----|
| <i>Athanasopoulou, Pinelopi<sup>1</sup>; Giovanis, Apostolos<sup>2</sup>; Gdonteli, Krinanthi<sup>1</sup>; Choustoulakis, Emmanouil<sup>1</sup></i> ..... | 687 |
| SEGMENTATION OF THE ITALIAN E-MOBILITY MARKET. AN APPLICATION OF THE THEORY OF PLANNED BEHAVIOR .....   | 690 |
| <i>Augurio, Alessandro<sup>1</sup>; Castaldi, Laura<sup>1</sup>; Melanthisou, Yioula<sup>2</sup></i> .....  | 690 |
| UNLOCKING NGO SUCCESS: THE STRATEGIC ROLE OF MULTISENSORY MARKETING IN A DYNAMIC GLOBAL ENVIRONMENT .....   | 693 |
| <i>Avgeropoulou, Aikaterini<sup>1</sup>; Melanthisou, Yioula<sup>2</sup>; Papasolomou, Ioanna<sup>3</sup></i> .....                                       | 693 |
| NUDGING HEALTHCARE PROFESSIONALS' PRESCRIBING PRACTICE THROUGH THE EFFECT OF PARTITION DEPENDENCE .....   | 698 |
| <i>Azas, Paschalis<sup>1</sup>; Georgiou, Andreas<sup>1</sup>; Iliakopoulos, Constantinos<sup>2</sup>; Aletras, Vassilis<sup>1</sup></i> .....            | 698 |
| INCLUSIVE CULTURAL EXPERIENCES: AN EXPLORATORY INVESTIGATION OF METAVERSE ENHANCING EXPERIENCES FOR CUSTOMERS WITH DISABILITIES.....                      | 702 |
| <i>Bagnato, Giovanna<sup>1</sup>; Amitrano, Cristina Caterina<sup>2</sup>; Giachino, Chiara<sup>1</sup>; Bargoni, Augusto<sup>1</sup></i> .....           | 702 |
| AGENCY AND STEWARDSHIP PERSPECTIVES: EVALUATING THE IMPACT OF PROMOTER AND NON-PROMOTER DIRECTORS' PAY ON FIRM PERFORMANCE.....                           | 706 |
| <i>Bedi, Prateek<sup>1</sup>; Ramakrishna, Smita<sup>2</sup>; Gopalakrishnan, Kalpakam<sup>2</sup></i> .....  | 706 |
| INTRAPRENEURIAL DYNAMIC CAPABILITIES AND DIVERSIFICATION: A MULTILEVEL ANALYSIS.....  | 707 |
| <i>Ben Selma, Majdi</i> .....   | 707 |
| THE KNOWLEDGE SUSTAINABILITY MODEL.....   | 711 |
| <i>Bencsik, Andrea</i> .....  | 711 |
| BEYOND TRADITIONAL BUDGETING: A CRITICAL ANALYSIS OF CONTEMPORARY PRACTICES IN GERMAN CORPORATIONS .....  | 712 |
| <i>Benzenhöfer, Niklas<sup>1</sup>; Kraus, Patrick<sup>1</sup>; Buchner, Markus<sup>1</sup>; Schlegel, Dennis<sup>2</sup></i> .....                       | 712 |
| FINANCING OPPORTUNITIES FOR FIRMS: DO SUSTAINABILITY AND DIGITALIZATION-RELATED ISSUES MATTER?.....   | 713 |
| <i>Bernini, Francesca; Ferretti, Paola; Martino, Pierluigi</i> .....  | 713 |
| TOP MANAGERS' LEADERSHIP AND ARTIFICIAL INTELLIGENCE: INSIGHTS FROM A BIBLIOMETRIC AND CONTENT ANALYSIS.....  | 716 |
| <i>Bevilacqua, Simone<sup>1</sup>; Ferraris, Alberto<sup>2</sup></i> .....  | 716 |

|  |     |
|--|-----|
| SOCIAL MEDIA'S ROLE IN FOSTERING RESPONSIBLE AND SUSTAINABLE BEHAVIOUR AMONG YOUNG PEOPLE OF GENERATION Z.....                                 | 719 |
| <i>Biondo, Adriano; Crescimanno, Maria; Adamashvili, Nino; Galati, Antonino</i> .....  | 719 |
| GREENWASHING PRACTICES AND CROWDFUNDING CAMPAIGNS .....  | 725 |
| <i>Bo, Shaocong; Giordino, Daniele; Battisti, Enrico</i> .....   | 725 |
| DIGITAL TRANSFORMATION: UNVEILING THE IMPACT OF DIGITAL SHOPPING ON EMPLOYEE COMMITMENT .....  | 728 |
| <i>Böhne, Lennard<sup>1</sup>; Tirrel, Henning<sup>2</sup></i> .....   | 728 |
| FROM FARM TO FUTURE: DIGITALIZATION AND SUSTAINABILITY IN ITALY'S AGRI-FOOD SECTOR.....  | 731 |
| <i>Cammeo, Jacopo<sup>1</sup>; Massacci, Alberto<sup>2</sup>; Zanni, Lorenzo<sup>2</sup></i> .....   | 731 |
| THE ROLE OF PERFORMANCE MEASURES IN BALANCING RESILIENCE AND SUSTAINABILITY: INSIGHTS FROM LOGISTICS IN A LARGE-SCALE RETAIL COOPERATIVE. 734  |     |
| <i>Castellano, Nicola<sup>1</sup>; Marelli, Alessandro<sup>2</sup></i> .....   | 734 |
| ANTECEDENTS, CHARACTERISTICS AND OUTCOMES OF AMBIDEXTERITY IN FAMILY BUSINESS: A SYSTEMATIC FRAMEWORK.....                                     | 740 |
| <i>Catalani, Alisea</i> .....  | 740 |
| MENTORING THE NEXT GENERATION TO PROMOTE INTRAPRENEURSHIP AND SUCCESSION IN FAMILY ENTERPRISES.....  | 743 |
| <i>Chebbi, Hela<sup>1</sup>; Laviolette, Eric Michael<sup>2</sup></i> .....  | 743 |
| URBAN AIR MOBILITY : THE ECOSYSTEM, COMPETITIVE ADVANTAGES AND CHALLENGES TOWARDS THE REALITY FOR SUSTAINABLE ENVIRONMENT .....                | 746 |
| <i>Chew, Grace</i> .....   | 746 |
| AN EXPLORATION OF STAKEHOLDER COGNITIVE BIASES HINDERING CIRCULAR ECONOMY IMPLEMENTATION.....  | 748 |
| <i>Chiaudano, Valentina<sup>1</sup>; Palmucci, Dario Natale<sup>1</sup>; Civera, Chiara<sup>1</sup>; Santoro, Gabriele<sup>1,2</sup></i> ..... | 748 |
| DEVELOPING A RESILIENT MODEL FOR WOMEN-LED SMES: INTEGRATING SUSTAINABILITY AND FLEXIBILITY .....  | 751 |
| <i>Chowdhury, A.; Kyriakidou, N.; Shafique, S. and Ankowska A.</i> .....   | 751 |

|  |     |
|--|-----|
| THE EFFECT OF AUDIT MARKET DEREGULATION ON AUDIT COMPETITION AND QYALITY<br>.....  | 754 |
| <i>Chytis, Evangelos; Fasoulas, Marios; Tasios, Stergios</i> .....   | 754 |
| NAVIGATING GLOBAL UNCERTAINTIES THROUGH LEGAL RECOGNITION OF DIGITAL-<br>TECHNOLOGICAL INFRASTRUCTURE WITHIN CORPORATIONS.....                             | 755 |
| <i>Cicu, Giuseppe Claudio</i> .....  | 755 |
| ARTIFICIAL INTELLIGENCE TO FOSTER (MULTI)-STAKEHOLDER MARKETING: A<br>SYSTEMATIC LITERATURE REVIEW .....   | 758 |
| <i>Civera, Chiara<sup>1</sup>; Ferraris, Alberto<sup>1,2</sup>; Tamiazzo, Mattia<sup>1</sup>; Chiaudano, Valentina<sup>1</sup></i> .....                   | 758 |
| ADDRESSING THE ATTITUDE-BEHAVIOR GAP IN FASHION INDUSTRY: EARLY ADOPTION OF<br>NEUROMARKETING TECHNIQUES ON GEN Z AND MILLENNIALS.....                     | 763 |
| <i>Civera, Chiara<sup>1</sup>; Casalegno, Cecilia<sup>1</sup>; Morelli, Brigida<sup>1</sup>; Rizzo, Cristian<sup>2</sup></i> .....                         | 763 |
| NUDGING FOR WISE REASONING .....   | 766 |
| <i>Civoljak, Kristijan; Hans, Kara</i> .....   | 766 |
| ELEVATING AUDIT QUALITY: A SYSTEMATIC FRAMEWORK FOR RISK ASSESSMENT .....  | 770 |
| <i>Cohen, Alon; Kantor, Jeffrey; Levy, Shalom</i> .....  | 770 |
| IMPRESSION MANAGEMENT IN AN ENVIRONMENTAL CATASTROPHE: CORPORATE<br>REPORT ANALYSIS.....   | 773 |
| <i>Correa, Aryane; Góis, Cristina</i> .....  | 773 |
| THE EFFECTIVE LEADER AS “SELF-TALK” OF THE ORGANIZATION.....   | 774 |
| <i>D’Amico, Alessandro; Danovi, Alessandro</i> .....   | 774 |
| THE IMPACT OF OPERATION MANAGEMENT CAPABILITY ON ORGANIZATIONAL<br>INNOVATION PERFORMANCE: THE MEDIATION ROLE OF MARKETING PIONEERING<br>ORIENTATION ..... | 778 |
| <i>Dahan, Gavriel<sup>1</sup>; Levi – Blich, Michal<sup>2</sup></i> .....  | 778 |
| RESIDENTS' SUPPORT FOR TOURISM DEVELOPMENT: INFLUENCES OF THE THEORY OF<br>PLANNED BEHAVIOR AND LOCAL ONLINE COMMUNITY ENGAGEMENT .....                    | 782 |
| <i>Dao Thi Tuyet Linh<sup>1</sup>; Nguyen Phuc Hung<sup>2</sup>; Ho Thanh Tri<sup>3</sup></i> .....  | 782 |
| INTEGRATED PERFORMANCE MEASUREMENT AND SCORING SYSTEMS FOR<br>AGRICULTURAL FIRMS' SUSTAINABILITY ASSESSMENT.....   | 785 |

|   |     |
|---|-----|
| <i>De Micco, Patrice; Parissi, Niccolò; Cupertino, Sebastiano; Riccaboni, Angelo</i> .....  | 785 |
| THE IMPACT OF ENTREPRENEURIAL UNIVERSITIES ON FOSTERING ENTREPRENEURIAL<br>ACTIVITIES: THE CASE OF THE UNIVERSITY OF TURIN .....  | 788 |
| <i>Demaria, Riccardo<sup>1</sup> Smirne, Paolo-Maria<sup>2</sup></i> .....  | 788 |
| HR BEYOND HR: THE DEVELOPMENT OF NEW METRICS TO ASSESS HR ACTIVITIES IMPACT<br>.....  | 791 |
| <i>Di Prima, Christian<sup>1</sup>; Ferraris, Alberto<sup>2</sup></i> .....   | 791 |
| MARKETING STRATEGIES AND INTERFACES WITH ACCOUNTING AND CORPORATE<br>FINANCE: A SYSTEMATIC LITERATURE REVIEW.....   | 795 |
| <i>Dimitropoulos, Panagiotis<sup>1</sup>; Koronios, Konstantinos<sup>2</sup></i> .....  | 795 |
| THE ROLE OF BLOCKCHAIN TECHNOLOGY AND ITS IMPACT ON THE BUYER-SUPPLIER<br>RELATIONSHIPS IN THE FOOD SUPPLY CHAIN.....   | 798 |
| <i>EL Naddaf, Sami<sup>1</sup>; Melanthiou, Yioula<sup>2</sup>, Efthymiou, Leonidas<sup>1</sup>; Christodoulou, Klitos<sup>3</sup></i> .....  | 798 |
| BUYER-SUPPLIER'S TRUST RELATIONSHIPS AND SOCIAL BONDING MECHANISMS IN THE<br>SMALL AND MEDIUM ENTERPRISES: INVESTIGATING THE IMPACT AND UTILIZATION OF<br>BLOCKCHAIN TECHNOLOGY ..... | 801 |
| <i>EL Naddaf, Sami<sup>1</sup>; Melanthiou, Yioula<sup>2</sup>, Efthymiou, Leonidas<sup>1</sup>; Christodoulou, Klitos<sup>3</sup>; Reaidy, Tony<sup>4</sup></i> .....                | 801 |
| ETHICAL AND UNETHICAL PRACTICES WITHIN THE FOOD SUPPLY CHAIN: EXPLORING<br>THE ROLE AND APPLICATION OF BLOCKCHAIN TECHNOLOGY .....  | 804 |
| <i>El Naddaf, Sami<sup>1</sup>; Melanthiou, Yioula<sup>2</sup>, Efthymiou, Leonidas<sup>1</sup>; Christodoulou, Klitos<sup>3</sup></i> .....  | 804 |
| PORTFOLIO OPTIMIZATION BASED ON LOCAL DEPENDENCE FUNCTION IN FINANCIAL<br>ASSET SELECTION.....  | 807 |
| <i>Erşin, Pelin; Tütüncü, G. Yazgı</i> .....  | 807 |
| UNLOCKING ITALY'S POTENTIAL: MEASURING PUBLIC VALUE IN THE NATIONAL<br>RECOVERY PLAN .....  | 809 |
| <i>Esposito, Paolo<sup>1</sup>; Tufo, Massimiliano<sup>1</sup>; Rossi, Piercarlo<sup>2</sup>; Boggio, Gloria<sup>2</sup></i> .....  | 809 |
| FROM BYTES TO BEAUTY: ICT'S INFLUENCE ON CULTURAL HERITAGE VALORIZATION....   | 810 |
| <i>Esposito, Paolo<sup>1</sup>; Rossi, Piercarlo<sup>2</sup>; Boggio, Gloria<sup>2</sup>; Tufo, Massimiliano<sup>1</sup></i> .....  | 810 |
| CULTURE-DRIVEN URBAN REGENERATION: TRANSFORMING CITIES THROUGH CREATIVITY<br>AND TECHNOLOGY .....   | 811 |
| <i>Esposito, Paolo<sup>1</sup>; Rossi, Piercarlo<sup>2</sup>; Boggio, Gloria<sup>2</sup>; Tufo, Massimiliano<sup>1</sup></i> .....  | 811 |



|  |     |
|--|-----|
| THE EFFECT OF THE NUMBER OF CONTROLS ON USER PERCEPTION OF INTERACTIVE PRODUCTS.....                                       | 812 |
| <i>Eytam, Eleanor</i> .....  | 812 |
| ROBOTIC PROCESS AUTOMATION AS AN INTEGRAL PART OF DIGITAL TRANSFORMATION .....   | 815 |
| <i>Farmakis, Timoleon; Alexandri Eleni; Doukidis Georgios</i> .....  | 815 |
| CIRCULAR ECONOMY IN THE LITHIUM-ION BATTERY INDUSTRY: STATE OF THE ART IN MANAGEMENT LITERATURE.....                       | 816 |
| <i>Fedele, Maria; Bruni, Roberto; Moretta Tartaglione, Andrea, Formisano, Vincenzo</i> .....                               | 816 |
| LGBTQ-THEMED ADVERTISING: A BIBLIOMETRIC ANALYSIS.....   | 821 |
| <i>Figueiredo e Silva, Andreia; Loureiro, Sandra Maria Correia</i> .....   | 821 |
| SMART INDUSTRY IN AGRIBUSINESS: CASE STUDIES FROM ITALY .....  | 825 |
| <i>Niccolò, Fiorini<sup>1</sup>; Simone, Bartali<sup>1</sup>; Kaufmann, Hans Rüdiger<sup>2</sup></i> .....                 | 825 |
| BUSINESS MODELS APPLIED TO THE INTERMODALITY OF PERISHABLE PRODUCTS .....  | 826 |
| <i>García Barranco, María del Carmen; Pérez Mesa, Juan Carlos; Hernández Rubio, Jesús; Galdeano Gómez, Emilio</i> .....    | 826 |
| MAPPING GAMIFICATION IN THE CONSUMPTION CONTEXT: A SYSTEMATIC LITERATURE REVIEW .....                                      | 828 |
| <i>Gaspar, José Miguel<sup>1</sup>; Loureiro, Sandra Maria Correia<sup>2</sup>; Rosado-Pinto, Filipa<sup>3</sup></i> ..... | 828 |
| TEACHERS' BURNOUT SYNDROME IN PUBLIC SPECIAL SCHOOLS IN GREECE IN THE POST COVID 19 ERA.....                               | 831 |
| <i>Gdonteli, Krinanthi; Athanasopoulou, Pinelopi; Mantzari, Georgia</i> .....  | 831 |
| STRENGTHENING COMPETENCES TO ENHANCE PROFESSIONAL MOBILITY IN THE EXPLOSIVES SECTOR .....                                  | 835 |
| <i>Góis, José</i> .....  | 835 |
| ETHICAL IMPLICATIONS IN THE APPLICATION OF AI IN HRM: A SYSTEMATIC LITERATURE REVIEW.....                                  | 838 |
| <i>Gola, Maria Silvia<sup>1</sup>; Ferraris, Alberto<sup>1,2</sup>; Perotti, Francesco Antonio<sup>1,3</sup></i> .....     | 838 |
| THE ADOPTION OF M-COMMERCE AMONG RETAIL SMES.....  | 842 |
| <i>Gopaul, Melanie</i> .....   | 842 |

|  |     |
|--|-----|
| “DON’T LEAVE ME BEHIND”, CAN UNIVERSITY EDUCATION ENABLE INDIGENOUS PEOPLE TO ENHANCE ECONOMIC CONTRIBUTION?: A STAKEHOLDERS’ PERSPECTIVE .....            | 844 |
| <i>Han, Mary</i> .....   | 844 |
| TO DETECT OR PREDICT ACCOUNTING FRAUD? AN AGENCY THEORY AND MACHINE LEARNING METHOD PERSPECTIVE.....   | 849 |
| <i>Han, Mary; Sobhan, Rahman</i> .....   | 849 |
| BUILDING BRIDGES: TRUST, WISDOM, AND THE PATH TO SOUND DECISION MAKING IN BUSINESS.....  | 853 |
| <i>Hans, Kara; Civoljak, Kristijan</i> .....   | 853 |
| IT TAKES TWO TO TANGO: UNDERSTANDING HUMAN-AI INTERACTION IN THE WORKPLACE .....   | 857 |
| <i>Henk, Anastasiya</i> .....  | 857 |
| HOW CAN SCALES HELP MANAGERS IN DECISION-MAKING? .....   | 860 |
| <i>Hindls, Richard<sup>1</sup>; Hronová, Stanislava<sup>2</sup>; Marek Luboš<sup>1</sup></i> .....   | 860 |
| DETERMINING ATTRIBUTES IN THE SMARTPHONE PURCHASE DECISION: ANALYSIS OF CONSUMERS FROM THE X, Y AND Z GENERATIONS.....                                     | 861 |
| <i>Hoeckesfeld, Lenoir<sup>1</sup>; Lenzi, Fernando César<sup>2</sup>; Boeing, Ricardo<sup>3</sup>; Behling, Gustavo<sup>2</sup></i> .....                 | 861 |
| THE RELATIONSHIP BETWEEN CORPORATE SOCIAL RESPONSIBILITY AND CORPORATE FINANCIAL PERFORMANCE: THE MODERATING ROLE OF CEO GENDER.....                       | 866 |
| <i>Hu, Jingyuan<sup>1</sup>; Fygkioris Michail<sup>2</sup>; Koufopoulos, Dimitrios<sup>3</sup>; Athanasiadis Konstantinos<sup>4</sup></i> .....            | 866 |
| SOCIAL ENTERPRISE MARKETING AND ARTIFICIAL INTELLIGENCE: FROM THE STATE OF THE ART TO THE FUTURE TRAJECTORIES.....   | 867 |
| <i>Iaia, Lea<sup>1</sup>; Scuotto, Veronica<sup>2</sup>; Davide Canavesio<sup>3</sup>; Marco Pironti<sup>1</sup>; Schiesari, Roberto<sup>4</sup></i> ..... | 867 |
| THE IMPACT OF EARNINGS MANAGEMENT ON PERFORMANCE EUROPEAN BANKING: THE MODERATING EFFECT OF ESG.....   | 871 |
| <i>Joaquim, Ricardo; Pimentel, Liliana; Proença, Catarina</i> .....  | 871 |
| THE EUROPEAN GREEN DEAL AND TURKEY: CHANCES FOR GREEN TECH TRANSITION AND MARKET GROWTH. A BIBLIOMETRIC ANALYSIS AND A SYSTEMATIC LITERATURE REVIEW.....   | 873 |
| HARNESSING TALENT IN A TURBULENT GLOBAL ERA: A CONCEPTUAL FRAMEWORK FOR BUSINESS TRANSFORMATION SUCCESS .....  | 873 |

|  |     |
|--|-----|
| <i>Kanakoglou, Konstantinos; Kafetzopoulos, Dimitrios; Goudetsidou, Maria</i> .....  | 873 |
| <i>Karapinar, Emrah<sup>1</sup>; Leonardo Roberto, Rana<sup>1</sup>; Fiore, Mariantonietta<sup>1</sup>; Maschio, Maria Rosaria<sup>2</sup></i> .....   | 874 |
| DYNAMIC PRICING IN THE DIGITALISED LINER SHIPPING INDUSTRY.....  | 877 |
| <i>Karki, Prakriti<sup>1</sup>; Endress, Tobias<sup>1</sup>; Wang, Na<sup>2</sup></i> .....  | 877 |
| BENEFIT OR BURDEN? EXAMINING ECONOMIC IMPACT OF IMMIGRATION FOR THE HOST COUNTRY UNDER NEW CIRCUMSTANCES.....  | 881 |
| <i>Kasnauskiene, Gindrute<sup>1</sup>; Grubliauskyte, Digna<sup>1</sup>; Pauliene, Rasa<sup>1</sup>; Preidys, Saulius<sup>2</sup></i> .....  | 881 |
| CAPACITY BUILDING IN THE HOSPITALITY INDUSTRY IN THE MAGHREB REGION .....  | 886 |
| <i>Kaufmann, Hans Rüdiger<sup>1</sup>; Sanchez Bengoa, Dolores<sup>1</sup>; Dogan, Derya<sup>2</sup></i> .....   | 886 |
| INDUSTRIAL SYMBIOSIS AND CIRCULAR ECONOMY UNDER THE FRAMEWORK OF INDUSTRY 4.0 .....  | 889 |
| <i>Keçi, Ina<sup>1</sup>; Mbrica, Ani<sup>2</sup></i> .....  | 889 |
| HOW DO MEANINGFUL WORK AND ALIGNMENT WITH ORGANIZATIONAL VALUES AFFECT ORGANIZATIONAL CITIZENSHIP BEHAVIOR? .....  | 892 |
| <i>Kidron, Aviv<sup>1</sup>; Vinarski-Peretz, Hedva<sup>2</sup></i> .....  | 892 |
| HOW TO REAWAKENING WORK PASSION AFTER COVID-19 PANDEMIC? .....   | 896 |
| <i>Kidron, Aviv<sup>1</sup>; Vinarski-Peretz, Hedva<sup>2</sup></i> .....  | 896 |
| DEALING WITH COMPLEXITY – THE CONTRIBUTION OF PARTICIPATORY MODELLING APPROACHES TO PROBLEM-SOLVING.....   | 900 |
| <i>Kogetsidis, Harry</i> .....   | 900 |
| THE ROLE OF CO-CREATION OF SOCIALLY SUSTAINABLE ACTIVITIES AND USER-GENERATED CONTENT: AN EXPLORATORY STUDY INTO GENERATION Z CONSUMERS' WELL-BEING.....   | 902 |
| <i>Kokkinopoulou, Emmanouela<sup>1</sup>; Papasolomou, Ioanna<sup>1</sup>; Porcu, Lucia<sup>2</sup></i> .....  | 902 |
| SPONSORSHIP, BRAND EQUITY AND SMES: A QUANTITATIVE STUDY .....   | 906 |
| <i>Koronios, Konstantinos<sup>1</sup>; Ntasis, Lazaros<sup>1</sup>; Thrassou, Alkis<sup>2</sup>; Douvis, John<sup>1</sup>; Strigkas, Athanasios<sup>1</sup>; Papadopoulos, Andreas<sup>1</sup></i> ..... | 906 |
| ENHANCING TOURISM THROUGH METAVERSE AND AI: A SHIFT TOWARDS DIGITAL CUSTOMER CENTRIC EXPERIENCES.....  | 910 |
| <i>Kouroupi, Nansy<sup>1</sup>; Metaxas, Theodore<sup>2</sup></i> .....  | 910 |

|  |     |
|--|-----|
| ECONOMIC THREATS AND ACCEPTANCE OF NEWCOMERS IN EUROPEAN SOCIETY .....   | 912 |
| <i>Kushnirovich, Nonna</i> .....   | 912 |
| EXPLORING ACADEMIC AND CULTURAL CHALLENGES FACED BY INDIAN POSTGRADUATE STUDENTS STUDYING IN THE UK.....   | 914 |
| <i>Kyriakidou, Niki; Ogbemudia, Joy; Sajjadi, Ali; Nisa, Shakiya; Faysal, Niaz; Mahtab, Tanbeen</i> .....  | 914 |
| GREEK NURSING HOMES IN TURBULENCE: THE INTERPLAY OF SUSTAINABILITY, RESILIENCE, AND IMPACT.....  | 917 |
| <i>Kyriakopoulos, Panagiotis<sup>1</sup>; Georgiou, Andreas<sup>2</sup>; Salavou, Eleni<sup>3</sup>, Petropoulou, Eleftheria<sup>4</sup>, Sofikitis, Emmanouil<sup>3</sup>, Mamakou, Xenia<sup>3</sup></i> ..... | 917 |
| THE CHALLENGES OF WOMEN IMMIGRANT WORKER: A PROPOSAL BY ENTREPRENEURSHIP WITH ITS MOTIVATION AND CHALLENGES.....   | 921 |
| <i>Lachapelle, Nathalie</i> .....  | 921 |
| DIGITAL TRANSFORMATION IN FOREST SERVICE OF GREECE.....  | 924 |
| <i>Liaskopoulou, Aikaterini<sup>1</sup>; Papadopoulos, Ioannis<sup>1</sup>; Vrontis, Demetris<sup>2</sup></i> .....  | 924 |
| AUTHENTIC PRIDE AND MUSEUM APPEAL: A POTENT MIX FOR BOOSTING SUGGESTIONS .....   | 925 |
| <i>Loureiro, Sandra Maria Correia; Silva, Andreia</i> .....  | 925 |
| GROWTH HACKING FOR SMES RESILIENCE AND INTERNATIONALIZATION: EXPLORING STRATEGIES, IMPACTS, AND OPPORTUNITIES FOR ACCELERATED GROWTH.....  | 929 |
| <i>Macca, Luca Simone<sup>1</sup>; Santoro, Gabriele<sup>1,2</sup></i> .....   | 929 |
| THE ROLE OF EMOTIONS IN MARKETING: A BUSINESS PERSPECTIVE .....  | 933 |
| <i>Magrizzos, Solon<sup>1</sup>; Kampouri, Katerina<sup>2</sup>; Kastanakis, Minas N.<sup>3</sup></i> .....  | 933 |
| SEAPLANES AND TOURISM.....   | 935 |
| <i>Maniatis, Antonios</i> .....  | 935 |
| JAPANESE SPACE EXPLORATION AND BUSINESS.....   | 938 |
| <i>Maniatis, Antonios</i> .....  | 938 |
| ARTEMIS PROGRAM AND BUSINESS .....   | 941 |
| <i>Maniatis, Antonios</i> .....  | 941 |
| THE DETERMINANTS OF NEW BUSINESS DENSITY IN THE WORLD: COMPARATIVE ANALYSES.....   | 944 |

|   |     |
|---|-----|
| <i>Mardanov, Ismatillo</i> .....  | 944 |
| SOCIAL INDICATORS TO ASSESS SUSTAINABILITY: SIMILARITIES AND DIFFERENCES BETWEEN TWO WINE REGIONS.....  | 946 |
| <i>Marta-Costa, Ana<sup>1</sup>; Massuça, José<sup>1</sup>; Baptista, Alberto<sup>1</sup>; Lucas, Maria Raquel<sup>2</sup></i> .....  | 946 |
| OPTIMISING THE PROFITABILITY OF MARITIME PINE FORESTS IN THE CONTEXT OF TIMBER AND RESIN EXPLOITATION .....   | 949 |
| <i>Marta-Costa, Ana<sup>1</sup>; Cerveira, Adelaide<sup>2</sup>; Sandim, André<sup>3</sup>; Mendes-Silva, Margarida<sup>4</sup>; Teixeira, Pedro<sup>4</sup>; Ribeiro, Marco<sup>5</sup>; Fonseca, Teresa<sup>3</sup></i> .....   | 949 |
| WHAT ABOUT INTEGRATING BIODIVERSITY CONSERVATION INTO VINEYARD MANAGEMENT STRATEGIES? A BIBLIOMETRIC ANALYSIS AND SYSTEMATIC LITERATURE REVIEW.....   | 952 |
| <i>Maschio, Maria Rosaria<sup>1</sup>; Adamashvili, Nino<sup>2</sup>; Fiore, Mariantonietta<sup>3</sup></i> .....   | 952 |
| SUSTAINABLE ENTREPRENEURSHIP - FROM SOCIAL NEEDS TO BUSINESS: THE SMARTWAY EXPERIENCE .....   | 956 |
| <i>Massacci, Alberto<sup>1</sup>; Casprini, Elena<sup>1</sup>; Palumbo, Rocco<sup>2</sup>; Zanni, Lorenzo<sup>1</sup></i> .....   | 956 |
| THE ROLE OF FEMALE ENTREPRENEURS IN ACHIEVING SUSTAINABLE DEVELOPMENT GOALS IN DEVELOPING COUNTRIES: CASE STUDY NIGERIA AND THAILAND .....  | 959 |
| <i>McDonald, Mercy; Charoenraja, Walaipan; Kaufmann, Hans Rüdiger</i> .....   | 959 |
| SHAPING TOMORROW'S ENTREPRENEURS: INSIGHTS AND INNOVATIONS FROM THE ERASMUS+ ENTREPRENEURSHIP TRAINING PROGRAMME .....  | 962 |
| <i>Melanthiou, Y.<sup>1</sup>; Triga, V.<sup>1</sup>; Ferreira Dias, M.<sup>2</sup>; Amorim, M.<sup>2</sup>; Alves, C.<sup>2</sup>; Gomes, I.<sup>3</sup>; Meireles, G.<sup>3</sup>; Ribeiro, A.L.<sup>3</sup>; Bratitsis, T.<sup>4</sup>; Daubariene, A.<sup>5</sup>; Daunoriene, A.<sup>5</sup>; and Ryciuk, U.<sup>6</sup></i> ..... | 962 |
| IMPACT OF ORGANIZATIONAL CULTURES ON EMPLOYEE WORK AND ORGANIZATIONAL ENGAGEMENT.....   | 964 |
| <i>Meneses, Raquel; Aguiar, Joana</i> .....   | 964 |
| OVERCOMING EVIL WITH GOOD: THE ROLE OF NGOS IN COMBATING MODERN SLAVERY .....   | 965 |
| <i>Michelson, Grant<sup>1</sup>; Wray-Bliss, Edward<sup>2</sup></i> .....   | 965 |
| SUSTAINABILITY INTEGRATION IN ARTS AND GRAPHIC DESIGN STUDIES: INSIGHTS FROM EUROPEAN FUNDED RESEARCH IN CYPRUS, PORTUGAL AND SPAIN.....  | 969 |
| <i>Mihai-Yiannaki, Simona; Hadjipapa-Gee, Sophia; Anastasiades, Tasos; Englezou, Demetra</i> .....  | 969 |

|  |      |
|--|------|
| ENVIRONMENTAL CONSCIOUSNESS AND INVESTMENT CHOICES ACROSS GENERATIONS<br>.....   | 974  |
| <i>Mihai-Yiannaki, Simona</i> .....  | 974  |
| UNDERSTANDING THE ROLE OF REASONING IN EXPLAINING PUBLIC ACCEPTANCE OF<br>VERTICAL FARMING PRODUCT.....  | 978  |
| <i>Mina, Giorgio; Celestre, Alessandro; Peira, Giovanni; Bonadonna, Alessandro</i> .....   | 978  |
| HEALTHCARE PRACTITIONERS' PERSPECTIVES AND SERVICE ORIENTATION IN THE AGE OF<br>DIGITALIZATION .....   | 982  |
| <i>Naamati-Schneider, Lior<sup>1</sup>; Salvatore, Fiorella Pia<sup>2</sup>; Milone, Michele<sup>2</sup></i> .....   | 982  |
| ADVANCING NON-PROFIT HEALTHCARE THROUGH DIGITAL INNOVATION.....  | 985  |
| <i>Naamati-Schneider, Lior<sup>1</sup>; Salvatore, Fiorella Pia<sup>2</sup>; Milone, Michele<sup>2</sup></i> .....   | 985  |
| UNRAVELLING THE INTERSECTION BETWEEN DIGITAL TRANSFORMATION AND<br>SUSTAINABILITY IN BIO SOCIO-TECHNICAL TRANSITIONS .....   | 988  |
| <i>Osarenkhoe, Aihie; Fjellström, Daniella; Chowdhury, Ehsanul; Khodabandeh, Afsaneh</i> .....   | 988  |
| LEADERSHIP PRACTICE OF CROSS CULTURAL AND NATIONALLY DISPERSED TEAMS -<br>EMPIRICAL CASE STUDY .....   | 989  |
| <i>Östergård, Nathalie</i> .....   | 989  |
| RESILIENCE AND BUSINESS ECOSYSTEMS: A SYSTEMATIC LITERATURE REVIEW.....  | 990  |
| <i>Parodi, Elisabete; Proença, João</i> .....  | 990  |
| THE MEDIATING ROLE OF PSYCHOLOGICAL EMPOWERMENT IN THE RELATIONSHIP<br>BETWEEN INCLUSIVE LEADERSHIP AND EMPLOYEES' INNOVATIVE BEHAVIOUR IN A SAFE<br>PSYCHOLOGICAL ENVIRONMENT ..... | 992  |
| <i>Pauliene, Rasa; Tamasevicius, Virginijus; Kasnauskiene, Gindrute; Stankeviciene, Asta; Raudone, Odeta; Puslyte, Greta</i><br>.....  | 992  |
| DIGITALIZATION FOR SERVICE QUALITY IMPROVEMENT.....  | 996  |
| <i>Pertusa-Ortega, Eva M.; Tari, Juan José; López-Gamero, María D.; Pereira-Moliner, J.; Molina-Azorín, José F.</i> .....  | 996  |
| FINANACIAL RESILIENCE OF MANUFACTURING SMALL AND MEDIUM ENTERPRISES IN<br>PORTUGAL.....  | 998  |
| <i>Pimentel, Liliana; Barreto, Adriana</i> .....   | 998  |
| SCIENCE MAPPING ON GENDER PARITY LAW AND POLITICAL EQUALITY: EMPHASIS ON<br>PORTUGUESE GOVERNMENTS STUDIES.....  | 1000 |

|   |      |
|---|------|
| <i>Pimentel, Liliana; Barreto, Adriana; Joaquim, Ricardo</i> .....  | 1000 |
| THE EFFECT OF INDUSTRY 4.0 ON ENTREPRENEURIAL ECOSYSTEMS: AN INTERNATIONAL PERSPECTIVE.....   | 1003 |
| <i>Pino, Magali<sup>1,2</sup>; Hussler, Caroline<sup>2</sup>; Ferraris, Alberto<sup>3</sup></i> .....   | 1003 |
| MEDIA PRESENTATION OF THE DEVELOPMENT AND REGULATION OF ARTIFICIAL INTELLIGENCE ON THE MOST READ CROATIAN PORTALS.....                              | 1006 |
| <i>Ražnjević Zdrilić, Marijana; Kalajžić, Vesna; Alvir, Katarina</i> .....  | 1006 |
| DEVELOPING AUGMENTED REALITY WITHIN E-COMMERCE PLATFORMS : A STRATEGIC RESOURCE FOR CREATING VALUE.....   | 1007 |
| <i>Reiter, Alan; Mouline, Jean-Pierre; Yildiz, Hélène</i> .....   | 1007 |
| BUSINESS MODEL INNOVATION THROUGH THE DIGITAL MATURITY LENS: EXHIBITION ORGANIZER'S PERSPECTIVE.....  | 1008 |
| <i>Romanova, Anastasia</i> .....  | 1008 |
| THE INTERPLAY OF PERCEIVED DIVERSITY, EQUITY, WORK ENGAGEMENT, AND PERFORMANCE: A SEQUENTIAL MEDIATION MODEL .....                                  | 1009 |
| <i>Sahasrabudhe, Swarali; Garg, Pooja; Elama, Anisha,</i> .....   | 1009 |
| HAPPINESS AND WELFARE IN CORPORATE SOCIAL RESPONSIBILITY (CSR) IN IRAN.....   | 1010 |
| <i>Sakka, Georgia<sup>1</sup>; Fotouhi Ardakani, Mohammad<sup>2</sup>; Khojasteh Avorgani, Razieh<sup>2</sup></i> .....                             | 1010 |
| HOW DOES THE UTILIZATION OF ARTIFICIAL INTELLIGENCE IN DIGITAL MARKETING AFFECT CUSTOMER RETENTION RATES WITHIN THE HOTEL INDUSTRY IN GREECE? ..... | 1015 |
| <i>Saltaris, Ioannis<sup>1,2</sup>;Charalampidis, Alexandros<sup>1</sup>; Kapoulas, Alexandros<sup>1,2</sup></i> .....                              | 1015 |
| ENHANCING LEARNING THROUGH KNOWLEDGE SHARING BETWEEN FACE-TO-FACE AND ICTS INTERACTIONS.....  | 1019 |
| <i>Santarelli, Loris; Ceci, Federica</i> .....  | 1019 |
| IMPLEMENTING DIGITAL TRANSFORMATION THROUGH OPEN INNOVATION: A CASE STUDY IN ITALIAN PUBLIC ADMINISTRATION .....                                    | 1023 |
| <i>Santoro, Leonardo; Santoro, Gabriele</i> .....   | 1023 |
| INNOVATION THROUGH EXPERIMENTATION: THE DUAL IMPACT OF LEAN STARTUP AND GROWTH HACKING METHODOLOGIES .....  | 1026 |
| <i>Santoro, Gabriele<sup>1,2</sup>; Palmucci, Dario Natale<sup>1</sup></i> .....  | 1026 |

|  |      |
|--|------|
| EXPLORING THE EFFECTIVENESS OF HUMAN AND VIRTUAL INFLUENCER MARKETING IN THE TOURISM INDUSTRY: HOW DIFFERENT INFLUENCER TYPES SHAPE TRAVEL CHOICES .....                   | 1030 |
| <i>Santos, Catarina<sup>1</sup>; Franco, Mara<sup>2</sup>; Almeida, Nuno<sup>3</sup>;</i> .....  | 1030 |
| BEYOND SURVIVAL: A SCALE TO MEASURE THE DRIVERS OF ORGANISATIONAL THRIVING .....   | 1034 |
| <i>Savickaitė-Kazlauskė, Evelina; Bendaravičienė, Rita</i> .....   | 1034 |
| USER, VISITOR, CUSTOMER OR STAKEHOLDER EXPERIENCE? A SYSTEMATIC LITERATURE REVIEW ON THE EXPERIENCE IN THE MUSEUM CONTEXT.....   | 1037 |
| <i>Sawczuk, Magdalena</i> .....  | 1037 |
| SPORTS TOURISM IN LUXEMBOURG: PASSION, PERSEVERANCE, AND ARTIFICIAL INTELLIGENCE (AI) – WHAT IS THE TRANSFORMATIONAL INFLUENCE OF AI ON SPORTS TOURISM IN LUXEMBOURG?..... | 1040 |
| <i>Schinzel, Ursula</i> .....  | 1040 |
| PROMOTING SALARY EQUITY: MENTORS AND LEGAL REFORM.....   | 1043 |
| <i>Schipani, Cindy<sup>1</sup>; Dworkin, Terry<sup>2</sup></i> .....   | 1043 |
| WHEN THE LEADER LISTENS: THE EFFECT OF HEAD NURSE’S LISTENING ON NURSES’ RECOVERY AND TURNOVER.....  | 1045 |
| <i>Schneidermann Gubbay, Dean<sup>1</sup>; Van Dijk, Dina<sup>1</sup>; Delegach, Marianna<sup>2</sup>; Kark, Ronit<sup>3</sup></i> .....                                   | 1045 |
| THE FUTURE OF PROJECT MANAGEMENT: ADOPTING DIGITAL HUMAN ASSISTANTS FOR AGILE METHODOLOGIES .....  | 1048 |
| <i>Giustina Secundo<sup>1</sup>, Claudia Spilotro<sup>2</sup>, Vanessa Liantonio</i> .....   | 1048 |
| CRISIS PREVENTION AND MANAGEMENT IN PUBLICLY-OWNED COMPANIES .....   | 1051 |
| <i>Serluca, Maria Carmela</i> .....  | 1051 |
| ANALYSING THE RELUCTANCE TO BUY FOREIGN PRODUCTS THROUGH CONSUMER AFFINITY, LOCAVORISM, ORGANIC AND INDUCED IMAGE.....   | 1054 |
| <i>Serrano Arcos, M. Mar; Sánchez-Fernández, Raquel; Pérez-Mesa, Juan Carlos</i> .....   | 1054 |
| FOSTERING REGENERATIVE VALUE NETWORKS THROUGH TERRITORIAL RESOURCE MANAGEMENT.....   | 1058 |
| <i>Sevil, Angel; Santa-Maria, Tomas</i> .....  | 1058 |



|  |             |
|--|-------------|
| SMALL STEPS, BIG IMPACT: ESG REPORTING IN EUROPEAN SMES .....  | 1061        |
| <i>Sfountouri, Despoina (Sheila)<sup>1</sup>; Antonaras, Alexandros<sup>1</sup>; Cormican, Kathryn<sup>2</sup>; Sampaio, Suzana<sup>3</sup>.....</i> | <i>1061</i> |
| IDENTITY PATTERNS, WORKPLACE ENGAGEMENT AND WORKPLACE BELONGINGNESS<br>AMONG ARABS IN ISRAEL.....  | 1064        |
| <i>Shdema, Ilan<sup>1</sup>; Sharabi, Moshe<sup>2</sup> .....</i>  | <i>1064</i> |
| WHAT MAKES LEADERS TO SUCCEED OR FAIL WHEN THEY ACQUIRE KNOWLEDGE? A<br>SYSTEMATIC LITERATURE REVIEW AND THE WAY FORWARD .....                       | 1066        |
| <i>Siachou, Evangelia<sup>1</sup>; Papasolomou, Ioanna<sup>2</sup>; Trichina, Eleni<sup>3</sup> .....</i>  | <i>1066</i> |
| MANAGEMENT IN THE PUBLIC SECTOR: ATTRACTING/RETAINING POLICIES AND<br>EMPLOYER BRANDING TO REDUCE THE GAP WITH THE PRIVATE SECTOR.....               | 1069        |
| <i>Sparapani, Devid<sup>1</sup>; Palmucci, Dario Natale<sup>2</sup>; Santoro, Gabriele<sup>3</sup>.....</i>  | <i>1069</i> |
| THE SIGNIFICANCE OF B2C LOCAL, SMALL OWNER-MANAGED STORES IN THE AGE OF<br>DIGITALIZATION IN GERMANY .....   | 1073        |
| <i>Sperry, Katharina .....</i>   | <i>1073</i> |
| THE HOUSEHOLD FOOD WASTE SORTING BEHAVIOR: LITHUANIAN CASE STUDY.....  | 1074        |
| <i>Štašys, Rimantas; Švažė, Dovilė.....</i>  | <i>1074</i> |
| PAST TRENDS AND FUTURE DIRECTIONS IN GREEN HUMAN RESOURCE MANAGEMENT<br>RESEARCH: A BIBLIOMETRIC ANALYSIS .....                                      | 1077        |
| <i>Sungaile, Ugne; Stankeviciene, Asta .....</i>   | <i>1077</i> |
| OPPORTUNITIES FOR DEVELOPMENT OF SLOW TOURISM IN POLANA BIOSPHERE RESERVE<br>.....   | 1080        |
| <i>Sýkorová, Katarína; Vaňová, Anna.....</i>   | <i>1080</i> |
| DECENTRALIZED FINANCE: BIBLIOMETRIC AND CONTENT ANALYSIS.....  | 1081        |
| <i>Szrajber, Bentzi; Alon, Ilan; Levy, Shalom.....</i>   | <i>1081</i> |
| WHY DO YOU REFUSE TO BUY? EXAMINING THE INTENTION TO BOYCOTT ETHICAL<br>FASHION.....   | 1084        |
| <i>Tan, Caroline S.L.....</i>  | <i>1084</i> |
| PRECISION AGRICULTURE TECHNOLOGIES IMPACT ON THE PROFITABILITY OF WINE-<br>GROWING COMPANIES: A CASE STUDY IN ITALY .....                            | 1087        |
| <i>Testa, Riccardo; Migliore, Giuseppina; Crescimanno, Maria; Adamashvili, Nino; Schifani, Giorgio; Galati, Antonino</i>                             | <i>1087</i> |

|  |             |
|--|-------------|
| INVESTIGATING THE TRAVEL BEHAVIOUR OF PEOPLE WITH DISABILITIES USING THE HEALTH BELIEF MODEL (HBM) .....   | 1090        |
| <i>Theofanous, Giannis<sup>1</sup>; Grigoriou, Markella<sup>2</sup>; Stylianou, Christiana<sup>3</sup>; Sakka, Georgia<sup>4</sup>; Thrassou, Alkis<sup>1</sup>.....</i> | <i>1090</i> |
| ASSESSING THE INTEGRATION OF ACCESSIBLE TOURISM CONTENT IN CYPRUS' HIGHER EDUCATION: THE CASE OF HOSPITALITY AND TOURISM PROGRAMS.....                                   | 1094        |
| <i>Theofanous, Giannis<sup>1</sup>; Sakka, Georgia<sup>2</sup>; Markou, Chrystalla<sup>3</sup>.....</i>  | <i>1094</i> |
| CUSTOMER ENGAGEMENT ON E-MARKETPLACE CONVERSATION: LAZADA THAILAND   | 1097        |
| <i>Thongmak, Mathupayas.....</i>   | <i>1097</i> |
| THE ROLE OF ARTIFICIAL INTELLIGENCE AND AUTOMATION IN CONDUCTING SYSTEMATIC LITERATURE REVIEWS.....  | 1098        |
| <i>Tomczyk, Przemyslaw<sup>1</sup>; Bruggemann, Philipp<sup>2</sup>; Vrontis, Demetris<sup>3</sup>.....</i>  | <i>1098</i> |
| HOW JAPANESE SHOPPING STREETS CAN BE REVITALIZED: AN EXPLORATION FROM A DYNAMIC CAPABILITIES PERSPECTIVE.....  | 1102        |
| <i>Tran, Thi Tuyet Nhung.....</i>  | <i>1102</i> |
| HOW TO ATTRACT AND RETAIN NURSES: WORK-FAMILY AND JOB CONTROL ISSUES .....   | 1105        |
| <i>Tremblay, Diane-Gabrielle.....</i>  | <i>1105</i> |
| SURFING THE SERVICE GAP: A STUDY ON MANAGERIAL AND GUEST PERSPECTIVES IN PORTUGUESE SURF HOSTELS.....  | 1108        |
| <i>Tretin, Sebastian<sup>1</sup>; Cavalinhos, Silvia<sup>2</sup>.....</i>  | <i>1108</i> |
| BRILLIANT LEADERSHIP: FEMALE LEADERS AS CATALYSTS FOR TRANSFORMATIVE CHANGE.....   | 1111        |
| <i>Uecker, Chinue.....</i>   | <i>1111</i> |
| EMOTIONAL INTELLIGENCE AND STRATEGIC DECISION-MAKING: A BIBLIOMETRIC STUDY .....   | 1114        |
| <i>Valongueiro-Esteves, Rita<sup>1</sup>; Soares, Ana Maria<sup>2</sup>; Rua, Orlando Lima<sup>3</sup>.....</i>  | <i>1114</i> |
| DESIGNING HRM PROCESSES FOR COMMON GOOD: CASES FROM INDIA.....   | 1115        |
| <i>Varkkey, Biju; Shah, Virangi.....</i>   | <i>1115</i> |
| DIGITALISATION COST OF MANAGERIAL PROCESSES IN THE GREEK HOSPITALITY INDUSTRY: THE CASE OF HOTEL UNITS IN CRETE ISLAND.....  | 1118        |
| <i>Varvaropoulos, Konstantinos; Chatzipetrou Eorikleia.....</i>  | <i>1118</i> |

|   |             |
|---|-------------|
| UNVEILING GREEK TOURISM TRENDS: A COMPARATIVE STUDY OF TOPIC MODELING TECHNIQUES.....   | 1121        |
| <i>Vavadakis, Alexios<sup>1</sup>; Fragkiadakis, Christoforos<sup>1</sup>; Kakavas, George<sup>1</sup>; Tsakiri, Alexia<sup>1</sup>; Krasonikolakis, Ioannis<sup>2</sup>.....</i>                                 | <i>1121</i> |
| ORGANIZING ARTIFICIAL INTELLIGENCE IN FAMILY BUSINESS: A KNOWLEDGE MANAGEMENT PERSPECTIVE.....  | 1125        |
| <i>Vesperi, Walter<sup>1</sup>; Ventura, Marzia<sup>2</sup>; Reina, Rocco<sup>2</sup>; Melina Anna Maria<sup>3</sup>, Cristofaro Concetta Lucia<sup>4</sup>; .....</i>  | <i>1125</i> |
| TECHNOLOGY, RISK, ARTIFICIAL INTELLIGENCE ACCEPTANCE, AND THE ADOPTION OF SMART DEVICES.....  | 1128        |
| <i>Vicci, Heidrich.....</i>   | <i>1128</i> |
| DISTRESSED M&A: A SYSTEMATIC LITERATURE REVIEW .....  | 1129        |
| <i>Vittorio, Laus; Battisti, Enrico; Salvi, Antonio .....</i>   | <i>1129</i> |
| CEO ARCHETYPES, CEO MANAGERIAL PERCEPTIONS, AND COMPANY PERFORMANCE: DEVELOPMENT OF A CONCEPTUAL MODEL.....   | 1132        |
| <i>Voveris, Donatas .....</i>   | <i>1132</i> |
| THE IMPACT OF SOURCE CREDIBILITY, TIE STRENGTH AND HOMOPHILY IN DIVERSE AND INCLUSIVE MICRO SOCIAL MEDIA INFLUENCER CAMPAIGNS: A COMPARISON BETWEEN THE GENERATION Z LGBTQ+ COMMUNITIES IN THE UK AND CHINA ..... | 1136        |
| <i>Wang, Xiaoxue<sup>1</sup>; Ryding, Daniella<sup>2</sup>; Vignali, Gianpaolo<sup>3</sup>; Waverley, Jack<sup>1</sup>.....</i>   | <i>1136</i> |
| EXPLORING HOW TOLERANCE OF AMBIGUITY RELATES TO CROSS-CULTURAL COMPETENCIES IN A JAPANESE MNE.....  | 1138        |
| <i>Yamazaki, Yoshitaka; Toyama, Michiko.....</i>  | <i>1138</i> |
| THE IMPACT OF CRYPTO ASSETS ON THE EUROPEAN FOOTBALL INDUSTRY .....   | 1140        |
| <i>Yiapanas, George.....</i>  | <i>1140</i> |
| ALGORITHMIC MANAGEMENT IN DATA-DRIVEN ORGANIZATIONS: ETHICS AND RESPONSIBILITY FOR EFFECTIVE CHANGE MANAGEMENT .....  | 1141        |
| <i>Zanda, Stefania; Castaldo, Francesca.....</i>  | <i>1141</i> |
| INVESTIGATING THE FACTORS DRIVING THE AVOIDANCE OF SECONDARY PROPHYLAXIS PROGRAMS: A CASE STUDY FROM LITHUANIA .....  | 1146        |
| <i>Žegunis Kristupas<sup>1</sup>; Rimantas Stašys<sup>2</sup>.....</i>  | <i>1146</i> |

THE STARUP DILEMMA OF MARKET EXPANSION ..... 1149

*Zif Jehiel* ..... 1149

PROMOTING CORPORATE SOCIAL RESPONSIBILITY: THE IMPACT OF ENVIRONMENTAL DISCLOSURES ON GENERATION Z'S PURCHASE INTENTIONS—A SHEIN CASE STUDY ..... 1152

*Zimand-Sheiner, Dorit; Lissitsa, Sabina* ..... 1152

ADVERTISING IN TIMES OF CRISIS: COMPARING STRATEGIES AND CONSUMER RESPONSES BETWEEN WARTIME AND ROUTINE CONDITIONS ..... 1155

*Zimand-Sheiner, Dorit<sup>1</sup>; Kol, Ofrit<sup>1</sup>; Oleinik, Itay<sup>2</sup>; Levy, Shalom<sup>3</sup>* ..... 1155

# **BOOK OF CONFERENCE PROCEEDINGS**

# THE DIGITAL TRANSFORMATION IN THE BANKING SECTOR. A FOCUS ON ITALIAN RETAIL BANKS

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## ABSTRACT

Retail banks are going through a period of profound change dictated by technological evolution and changes on the demand side. The aim of this paper is to provide an overview of the current scenario, identifying the strategies retail banks are pursuing with the aim of creating experiential opportunities with an increasing use of digital solutions. To this end, the investments recently made by Italian retail banks in digitalisation have been considered and classified in order to get a schematic picture of them useful to identify the strategic directions taken by them to achieve important results in terms of competitive advantage and customer value. The analysis of the factors behind the change made it possible, at a later stage, to understand the choice of the strategic guidelines outlined above, also highlighting differences between small and large banks. The paper concludes with some managerial implication, a description of the limitations of the study and suggestions for future research.

*Keywords: digital transformation, banking, customer experience, omnichannel*

## 1. INTRODUCTION

All economic sectors are affected by the digital transformation and by the growing importance assigned to sustainability in doing business, declined in ESG criteria, albeit under different aspects and with different degrees of intensity and pervasiveness. The banking sector is one of those in which these changes have become particularly evident, so much so that a veritable transformation of traditional banks is underway, in which they are increasingly engaged in digital transformation and sustainability initiatives with the customer at the centre of their business model. The goal is to be able to continuously have a value proposition judged to be of value by the customer in a world increasingly dominated by technology that allows for real-time, secure, easy-to-use and sustainable solutions. All this has led to outlining a bank that is attentive to environmental, economic and social issues and that offers services with a high degree of digitalisation. Combining digital transformation with the theme of sustainability has therefore initiated traditional banks to a profound rethinking of their business model in line with the changing external environment and the growing emergence of

the Fintech sector. Rethinking the bank from a digital and sustainable perspective requires the adoption of a comprehensive and synergetic approach that includes technological (with increasing use of big data and Artificial Intelligence), organisational, cooperative and infrastructural aspects. Moreover, the customer demands the possibility to have a customer journey in an increasingly phygital and sustainable context, with an acceleration due to the Covid-19 pandemic period.

The purpose of this study is to bring out these changes taking place in the Italian banking context, focusing on the factors that are most influencing banks in their strategic and operational choices.

The RQs can be summarised as follows:

- How is digital transformation changing the business model of retail banks?
- What are the main factors driving banks towards the adoption of digital solutions?
- What value effects do banks aim to achieve?

After an analysis of the national and international literature on the subject of digital transformation in the banking sector and the consequent effects on the value proposition and Bank's business model, a desk analysis based on Banca d'Italia and ABI documentation was carried out in order to schematise the investment projects recently launched in the banking sector on the subject of digital transformation. This made it possible to identify some of the main strategic directions taken by traditional Italian banks engaged in the digital transformation process. The analysis of the factors behind the change made it possible, at a later stage, to understand the choice of the strategic guidelines outlined above with a view to pursuing market performance improvement objectives. The paper concludes with a description of the managerial implications and limitations of the study and some suggestions for future research..

## **2. RETAIL BANKING IN THE DIGITAL AGE**

Over the past decades many changes have taken place mainly due to digital disruption understood as "transformation caused by emerging digital technologies and business models that change the value propositions of goods and services" (Chkoniya et al., 2020, p. 161). In the banking sector, this transformation has led to a real revolution in the service model in order to succeed in combining the physical and digital customer experience, enabling the customer to access services in an omnichannel logic. Over the 2008-2021 period, data show a significantly growing trend of omnichanneling: relationship channels (consultant, agency, contact centre and chat with operator) + do-it-yourself channels (ATM, Internet banking, mobile banking) increased from 72% to 88% (ABI, 2022, p.51). This is also considering that the number of Internet users has grown considerably and continues to do so exponentially: from 2.6 million users in 1990 to 5.158 million in 2023 due to the development of the Word Wide Web and the change on the consumer behaviour front accelerated during the pandemic

period by Covid 19. Today, customers increasingly tend to use different channels for information and/or device contacts with banks, adopting an increasingly 'phigital' approach. Verint's VXI Banking report shows that 53% of consumers use digital channels to conduct transactions, compared to 23% of those who go to the branch (Hudson, 2023). The trend of increasing use of digital solutions is therefore evident, especially with regard to low-complexity transactions that can be carried out quickly and securely by the customer wherever and whenever he or she wants, using one of the various devices available. In this regard, the ABI Lab Digital Banking Observatory (ABI Report March 2023, p.14) highlighted that as of July 2022, the most widely used network connection tool by individuals aged between 18 and 64 is the smartphone (97.3%), followed by PC (75.4%) and Tablet (53.0%). This change at the level of consumer behaviour has led traditional banks to implement a process of revision of their business models to incorporate the advances of technology<sup>1</sup>, with the goal to increase the customer satisfaction and customer loyalty level as a guarantee of growth (Cecchin, 2008). This goal appears difficult to achieve also because of the growing competition in the sector, which sees the presence of new players that are very aggressive, marketing-oriented and with strong IT skills. These are the fintech players with whom traditional banks have to deal, but with whom they have also initiate profitable collaborative relationships in order to have positive impacts on customers in terms of new products/services characterised by an increasing level of personalisation and realised increasingly quickly (Econopoly, 2023). Underlying the success of such collaborations is the interaction between different competencies and the willingness to bring them together to produce benefits for all parties involved, primarily traditional banks, fintechs and customers. The latter benefit from the innovations introduced, both at the level of products/services and in the way they access them, which simplify their lives and contribute responsibly to the achievement of ESG objectives. On the other hand, the more customers are able to access remotely, the less they need to travel to the branch with obvious impacts on the environment. This is just one example of how a bank, thanks to the solutions it offers its customers, can produce positive effects in the area of sustainability. In fact, it has been observed that sustainability for a bank can essentially concern two aspects: the first refers to its organisation and the adoption of business practices related to the areas of sustainability (e.g. energy consumption, waste, relations with employees) and the second relates to the performance of its activities in particular with regard to the management of credit and customer savings<sup>2</sup>. This orientation towards sustainability has led to a change in the relationship with the various stakeholders and to the implementation of a real transformation of the branches, which are becoming centres of

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<sup>1</sup> According to the ABI Lab Report, the total IT expenditure that Italian banks have dedicated to digital transformation in 2022 amounts to EUR 5.3 billion. Moreover, 92% of them plan a growing or stable budget compared to last year, and the growth levers identified by the ABI Lab Report are the following: becoming a Data Driven Bank; reviewing the internal organisation from a Learning Organisation perspective; investing in Exponential Architectures; and continuing in the wake of Resilience. <https://www.aziendabanca.it/notizie/tecno/rapporto-abi-lab-2022>

<sup>2</sup> <https://www.lacassa.com/upload/carira/finanza/VademecumFinanzaSostenibile-ABI.pdf>



experience, where it is possible to carry out a series of activities even in self-service mode by accessing digital equipment that is easy and quick to use, as well as being able to take advantage of a high-value consultancy service. This is in addition to the possibility of remote access, in a logic of integrated and synergetic approach, which recalls the already mentioned omnichannel<sup>1</sup>. The branch is therefore increasingly seen as a space to provide advice to customers and to give them a good service experience. The issue of customer experience (CE), defined as the cognitive and affective outcome of a customer's exposure to or interaction with a company's people, processes, technologies, products, services and outputs, is therefore becoming increasingly important and strategic (Buttle, 2009; Klaus 2008). In order to manage CE, banks need to proceed with the definition of targeted management actions and the development of consistent business processes focused on customer clusters. For this purpose, it is essential to acquire, process and analyse customer data, identifying in detail the specific needs of the various customer segments, as well as acquiring important input on their purchasing process and how it has changed, and is changing, as a result of the spread of IT and, more recently, artificial intelligence (AI) (Armutcu et.al., 2024). Indeed, the solutions proposed to the market by banks must constantly be able to offer effective solutions to their customers, with much more widespread use of technology today than in the past. Listening and data processing capabilities seem to be of crucial importance in this regard (Omarini, 2014) to guide the efforts of retail banks. To this end, a data warehouse can be very useful for integrated decision support management (Mehmood and Anees 2019). Furthermore, by increasing the use of technology, banks can improve their financial services (Filotto et al., 2021) and ability to interact with customers (Kothari and Seetharaman, 2020). To this end, it is increasingly necessary for banks to consider adopting big data analytics systems (Al-Khatib, 2022) to make proper financial decisions and achieve results in terms of reducing financial and credit risks (Hung et al 2020).

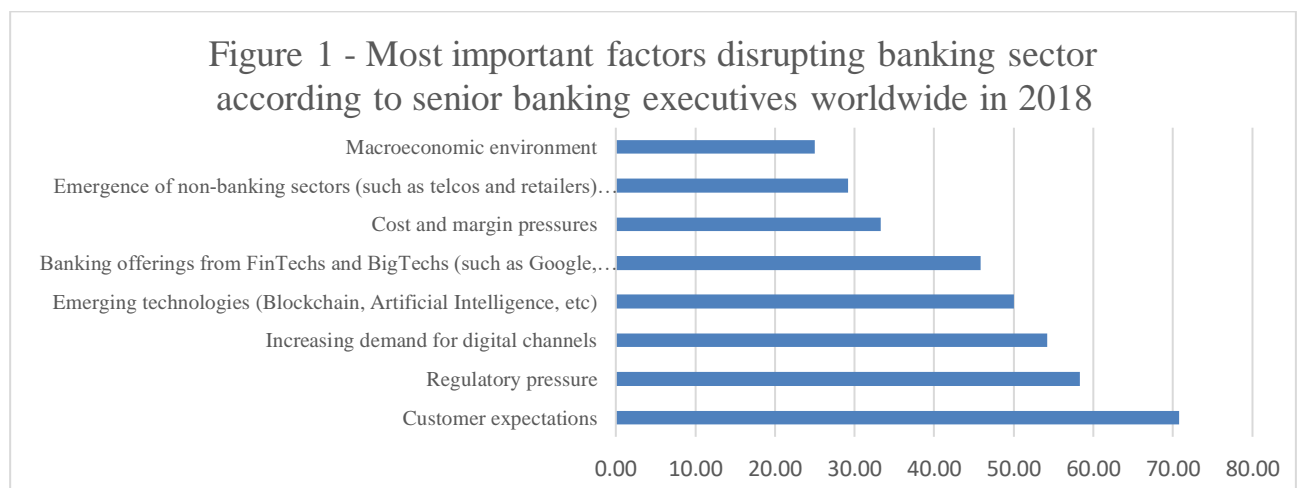
As already mentioned, all these initiatives involve more and more external operators in order to systemise a complex of differentiated know-how and resources useful to strengthen the competitive advantage of all the actors involved. Moreover, such an arrangement appears to be valid insofar as it guarantees the strategic and operational flexibility required by digital disruption, which is already a reality today and which recalls the concept of flexible banking (Previati D., 2002). The latter is characterised by being a proactive and strongly change-oriented bank in order to operate successfully in its target markets.

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<sup>1</sup> These changes have led to a progressive closure of branches on the Italian territory: from 2012 to 2021 the number of bank branches fell from 32,881 to 21,650, of which about 51% in the last five years (ABI 2023, p.5).

### 3. THE PRINCIPAL DRIVERS OF DIGITAL CHANGE IN BANKING SECTOR

The commitment to the adoption of new digital solutions stems from several factors. Research shows that nearly 71% of the executives surveyed listed customer expectations as a disrupting factor for the banking sector in 2018 according to Capgemini (Figure 1, Source Statista). Regulatory pressure, increasing demand for digital channels and emerging technology were also considered important factors. In general, it can be seen that the adoption of advances on the technology front is motivated mainly by pressures from the demand side, which appears increasingly digitised and eager to access even complex services remotely than by advances on the new digital solutions front. Such adoption is therefore aimed at obtaining benefits mainly at the level of products/services offered to the market and at initiating changes in internal processes, also with a view to achieving greater internal efficiency and cost reduction.



Source: Capgemini; EFMA, 2018.

It seems, therefore, that innovation is seen as a means of achieving better performance also through the possibility of affecting customer satisfaction. On the other hand, the use of new digital solutions such as mobile technology, cloud computing, social media, internet of things, big data analytics (Uhl et.al. 2016) make it possible to develop the ability to manage and anticipate customer expectations (Valdani, Busacca, 1995), influencing strategic and tactical corporate choices aimed at satisfying customer needs more and more responsibly. In the service sectors, a particular focus is on improving the customer experience, both in a physical and digital environment. Within the banking sector, this is also reflected in the latest Fintech report, which states that there is a strong push by the main players in the system to redesign the way in which the customer experience is designed, leading to the emergence of a new paradigm called Experiential Banking. Banking services are intangible and often involve an interaction between bank employees and customers that actually enables the service to be

delivered (Zeithaml et.al 2012). The business model of banking intermediaries is therefore necessarily oriented towards creating value within customer relationships (Scannella, 2010 p.719), following a relationship banking approach. The customer's experience at the various touchpoints of the customer journey<sup>1</sup> is therefore subject to evaluation by the customer and will contribute to the formulation of his or her overall judgement of the experience. The customer will make an evaluation of the overall experience by considering all the moments they have come into contact with a given organisation; the customer will increasingly require the organisation to implement service offerings both physically and digitally and to monitor the level of effectiveness and efficiency achieved. The objective is to maximise customer satisfaction and have positive returns on the Net Promoter Score (NPS) indicator (Reichheld F., 2003). Providing customers with a satisfactory experience requires considering the entire service process and adopting appropriate solutions for each stage of this process (Makudza, 2021), with increasing use of technology. The physical-digital combination will be increasingly rewarding in terms of being able to offer customers personalised, secure and valued solutions. In addition, a bank that is oriented towards providing satisfying experiences will be committed to developing systems that integrate existing customer data, with inevitable effects on business processes. For example, the MPS group has long since developed a system to increase commercial and operational efficiency through the provision of four modules customised to the needs of the specific cluster: commercial scheduling, customer file, monitoring and knowledge management (Delprato, 2008). With such a system, the bank can therefore maintain a valuable relationship with its customers as it is based on the deep knowledge it has of their needs.

In the following we will try to understand which specific areas Italian retail banks are addressing to achieve the described objectives through an increasing use of innovative digital solutions.

#### **4. INNOVATION DRIVING DEVELOPMENTS IN THE BUSINESS MODEL**

The innovative scope of digitalisation therefore involves multiple aspects that are profoundly transforming the banking system and, in general, the Fintech sector. In the following analysis, also considering the Banca d'Italia's methodological note, we will gather under the name Fintech "those investment initiatives focused on technological-financial innovation and capable of generating new processes, products, services and business models"<sup>2</sup>, producing a decisive effect on financial markets, institutions or service offerings. These innovations therefore develop along the entire credit and finance chain: from how credit is created to how it is provided (e.g. crowd-funding, peer-to-peer

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<sup>1</sup> The customer journey has been defined as 'the sequence of events - planned or unplanned - through which customers inform themselves, purchase and interact with the company's offerings, including products, goods, services or experiences' (Norton, Pine II, 2013).

<sup>2</sup> <https://www.bancaditalia.it/pubblicazioni/indagine-fintech/2021/2021-FINTECH-INDAGINE.pdf>

lending), payment services (instant payment), virtual currencies (cryptocurrencies), advisory services (robo-advisors), decentralised validation technologies, identification, service delivery support (cloud computing and big data). Starting from such a broad perimeter, one can sense the impact that innovation has on all market segments by changing their structure in terms of volumes and values, as well as by enriching the number and type of players along these value chains, particularly with the entry of technology start-ups or technology and social media giants'. Added to this is a receptive market<sup>1</sup> that confirms a structural change on both the supply and demand sides. Against this backdrop, diverging scenarios are opening up in which fintech is both a driver of innovation and a disruptive factor along the supply chain. In our financial system, innovations deriving from fintech technologies are spreading, with an increase over the years in both expenditure in absolute terms and in the number of intermediaries and projects, highlighting a higher rate of technology adoption within the financial system. Faced with this external pressure, traditional banks have intensified their commitment to new technologies to improve their processes and value proposition. This is evidenced by an expenditure on fintech technologies for the two-year period 2021-2022 that amounts to 530 M€, up from the previous two-year period (456 M€) with the number of investing intermediaries rising to 96 (77 in the previous two-year period) and the number of projects rising to 329 (from the previous 267). The above is also confirmed by the data in the CIPA-ABI 2022 survey<sup>2</sup> where an indicator is measured, the TCO (Total Cost of Ownership), which represents the trend of IT spending in the Italian banking sector and which shows a continuous growth phase since 2014. Spending on investments in innovative technologies shows a concentration on a small number of intermediaries, among which, however, there are also small and medium-sized banks, confirming the transversal nature of this type of investment. The openness of the financial system is also evidenced by the high number of partnership agreements with fintech companies and participation in incubators, sandboxes and experimentation spaces. In particular, collaborations are mainly agreements related to initiatives developed by the intermediary that uses them to develop a Fintech business.

More than 4/5 of collaborations are in fact the provision of a service to the intermediary or the sale of services to the intermediary's clients. Investment projects are mainly aimed at the creation of products and services or the achievement of new channels, processes, cost reduction or customer satisfaction, and are predominantly intended to introduce elements of innovation in the relationship between the financial intermediary and the consumer (understood as consumer households or businesses, respectively 56.5% and 24% of the innovations introduced). In order to have an overall picture of the

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<sup>1</sup> 82% of consumers in the 18-24 age group have purchased a financial product from new providers in the last 12 months while this percentage drops to 34% in the >65 age group

<https://www.accenture.com/content/dam/accenture/final/industry/banking/document/Accenture-Banking-Consumer-Study.pdf>

<sup>2</sup> <https://www.cipa.it/rilevazioni/economiche/2022/index.html>

recent investment initiatives launched in the banking sector in the digital transformation sphere, a summary table was constructed by examining data and information acquired from Banca d'Italia and ABI documentation (see table 1).

**Table 1 - Primary business area, project area and type of projects recently implemented by Italian retail banks**

| Primary business area              | Project area  | Type of projects   |
|------------------------------------|---|--|
| Credits, deposits, capital raising | mobile banking<br>digital lending<br>supply chain finance<br>new solutions for guarantees and other applications  | The prevailing technology is investment in APIs, Big Data and RPA <sup>1</sup> . Many projects are aimed at developing services for mobile banking and digital lending.  |
| Payments                           | solutions to digitise transactions<br>payment deferrals in physical or online shops<br>payment acceptance and management<br>financial situation monitoring and automation of physical processes | Solutions to make transactions smoother and faster, payment deferrals for purchases in physical or online channel, acceptance and management of payments by businesses and freelancers (e.g. smartpos), solutions to reconcile income and expenditure across different intermediaries <sup>2</sup> |
| Investment and insurance services  | investment services<br>advisory support<br>new products and channels<br>insurance services  | Projects aimed at increasing the quality and efficiency of the portfolio, creation of automatism that support consulting, development of insurance products in line with the demands of niche markets  |
| Governance                         | compliance<br>credit risk governance<br>Others  | These are projects implemented to respond to regulatory developments or to automate internal processes   |
| Business Operations                | back office<br>business support<br>customer support   | These are projects that aim to automate business processes that the user does not perceive (or, rather, takes for granted) except in the service part  |

Source: own elaboration on Banca d'Italia and ABI documentation

In the table it is possible to identify the primary business area, the project area and the specific project type of the aforementioned initiatives. From the analysis of the table, a complex picture emerges that

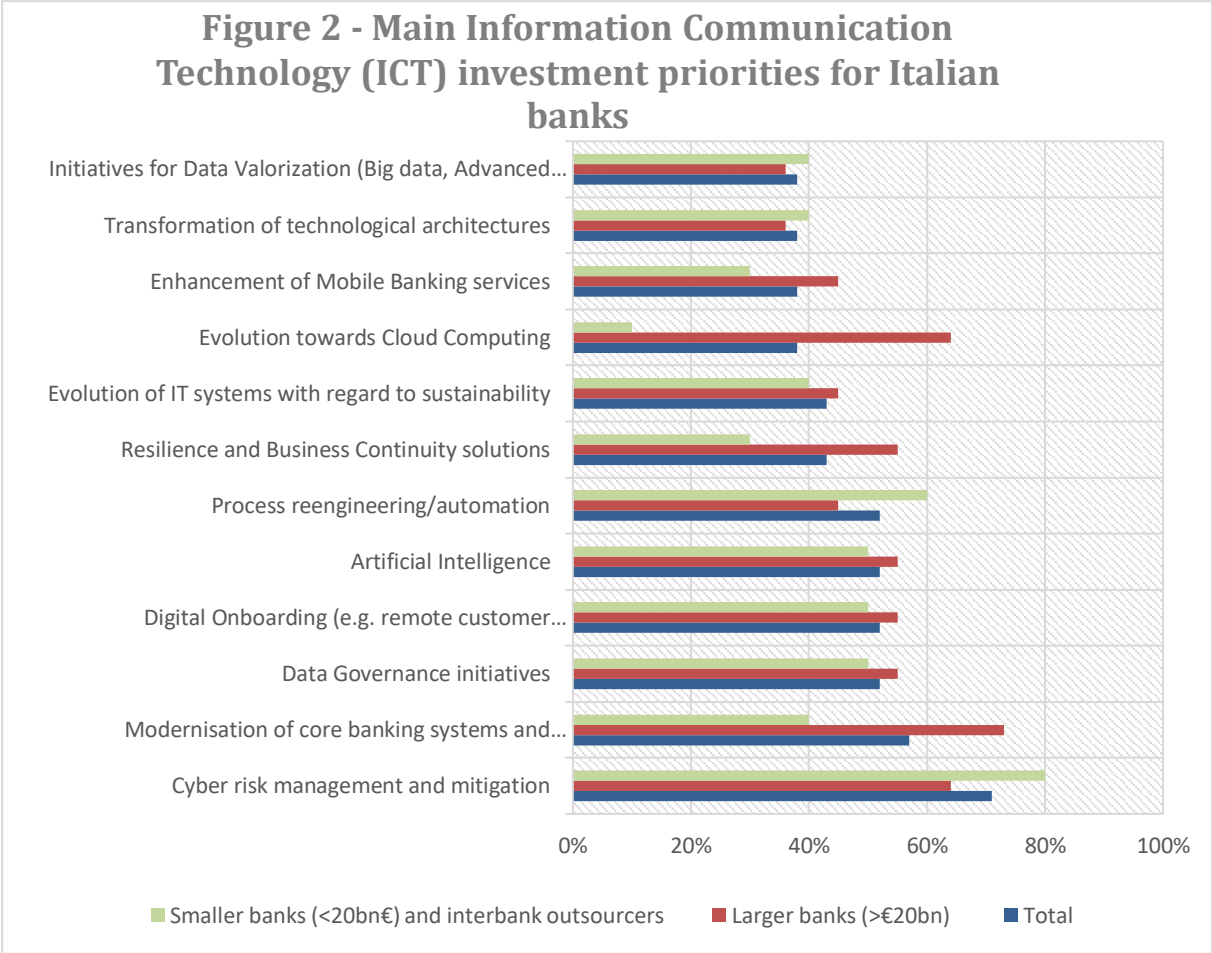
<sup>1</sup> PIs (Application Programming Interface) and RPA (Robotic Process Automation) are also enabling technologies for the development of vertical products and services that then impact the user experience.

<sup>2</sup> This allows the client a single view of his or her financial situation. The same technology is used in the investment world, allowing customers (especially affluent customers who are usually multi-banked) to have a single view of their investor profile, thus enabling the risk/return ratio of all the wealth invested to be efficient, even if with different operators.

shows how, on the supply side, investment in technology translates into a strong opportunity for the strategic repositioning of the bank, which must innovate in order to continue to offer value products and services to its customers. On the demand side, this pressure creates the preconditions for seeking satisfaction for needs that are more or less latent but spreading rapidly among the target audience, at a pace in fact aligned with that of the development of digital innovations. A framework that is still being defined, even though it is generating consumer experiences closer to user expectations, both for products and services: in 2022, for example, although 23% of banks envisaged the possibility of using an app to open a digital account, this feature was only used by 10% of users. On the other hand, research by Accenture shows that 2/3 of customers say that banking companies are not responding quickly to their expectations. This highlights the fact that as of today we are still in the change phase and the implementation of new solutions will require further and continuous efforts from the supply side in tune with the changes in demand, which will increasingly take advantage of the new opportunities offered by the banking system, benefiting both in terms of user experience (especially in terms of speed, ease of use and security) and costs.

## **5. THE PRIORITIES FOR ITALIAN BANKS ADOPTING NEW TECHNOLOGIES**

The innovative projects recently initiated by traditional banks are driven by several factors that show different levels of importance. High on the list of investment priorities are cyber risk management and mitigation initiatives, identified as a top issue by both larger and smaller Italian banks (Figure 2). The relevance of security safeguards is always significant because of banks' increased exposure to cyber risks and the consequent need to constantly strengthen defense measures. Cybersecurity has become a priority for banks, as protecting their customers' data is critical to maintaining the institution's trust and reputation. However, the banking sector is increasingly subject to cyber threats, which require advanced solutions to ensure data protection. The banking sector is increasingly subject to cyber threats, such as phishing, malware, ransomware, and DDoS attacks. Banks also face the challenge of data management, as customers' personal information is increasingly numerous and complex. In addition, banks must constantly update their security measures to prevent new cyber threats. Cybersecurity is followed by the issue of modernizing core banking systems and upgrading infrastructure: a path that has been underway for a number of years now but remains relevant especially for larger banks. A strong push to invest in Data Governance, Digital Onboarding and Artificial Intelligence initiatives is noted, and the focus on Cloud Computing (especially for larger banks) remains high in line with the need to enable more agile models in service development.



Source: ABILab 2024

The changes taking place in the banking sector, linked to developments in information technology and an increasingly friendly consumer towards digital devices to access financial services as well, are an expression of a proactive approach that retail banks have adopted, and continue to adopt, in order to remain competitive in their markets. These are profound changes that have required a revisiting of business models in the awareness that this is essential to offer their customers innovative solutions both in terms of products/services and access methods, improving customer experience. Today, in fact, but we believe more and more in the near future, remote access will be the preferred solution for many customers, being more practical, economical and faster than the alternative of going in person to the branch. This has also emerged from recent research: convenience, speed of execution, lower costs and electronic documentation are the attractive levers that have induced digital customers to subscribe to products and services via the web (ABI 2023, p.51).

## 6. MANAGERIAL IMPLICATIONS

On the basis of what has been described, we can state that the range of services that can be accessed remotely and those that can be used in self-service mode should become broader, satisfying the changing and differentiated needs of the various customer clusters that show a growing aptitude to use new technologies to access the services they need, with a consequent increase in demand for services with a higher digital content. Within this evolutionary scenario, a major theme is the cyber risk management and the solutions to mitigate it. This is a real priority as regards the investments made by Italian banks in the ICT (Figure 2). Moreover, the financial sector is one of the sectors most affected by cyber attacks due to the volumes, nature and frequency of transactions, as well as the size of the customer base (Bajwa et.al, 2023). Large organisations have suffered various such attacks over the years that have jeopardised the security of their customers' data and, in some cases, there have been outright thefts of money, such as the case of the Bank of Russia in which as many as 21 cyber-attacks occurred with a total damage of \$50 billion (Chakraborty, 2020). This is why spending on cybersecurity has grown significantly over the years and is now one of the main areas of investment for financial institutions. Digitisation can therefore be a source of value proposition and competitiveness improvements, but it also exposes to potentially very dangerous cyber risks that need to be well identified and minimised through appropriate initiatives. These must be supported by governance within a strategic design at the centre of which is placed the customer and his satisfaction. It is for this reason that alongside security, retail banks are pursuing a complex of projects, belonging to different business areas, aimed at enriching their offerings with an increasing level of digitalisation and optimising the service process also with initiatives that are not directly visible to the customer but that can impact on the level of efficiency and security of the process and the quality of the service provided.

## 7. CONCLUSIONS, LIMITATIONS AND SUGGESTION FOR FUTURE RESEARCH

The analysis of projects recently implemented by Italian retail banks has provided an overview of the various types of projects on which these institutions are directing their resources in the knowledge that only a proactive approach to innovation is an indispensable factor in succeeding in continuously proposing a value proposition judged to be of value by their customers and at the same time allowing all corporate stakeholders to see their needs satisfied, in line with the fundamentals of stakeholder theory (Freeman, 1994). The analysis conducted provides an overview of the current trend related to digital transformation within retail banks, with a particular focus on Italian ones. This analysis has



some limitations as it is based solely on the analysis of secondary data. We believe that the analysis could be developed by carrying out an empirical analysis, by conducting in-depth interviews with a sample of managers in the banking sector aimed mainly at bringing out the main difficulties in implementing ICT investments, while at the same time describe the effects on the business model, internal organisation (including aspects related to staff management and training) and customer relations. It would also be useful to understand whether performance indicators, including customer satisfaction indicators, correlate with the investments made. Indeed, with such initiatives, banks can improve their ability to intercept customers' needs and be able to satisfy them with an omnichannel proposition perceived as valuable by the customer over time.

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# **SOCIAL BUSINESS ENTREPRENEUR'S MINDMAP: COGNITIVE ELEMENTS AND THE DEVELOPMENT OF ENTREPRENEURIAL OPPORTUNITIES**

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## **ABSTRACT**

This article aims to analyze the mental models of social business entrepreneurs from the perspective of their cognitive elements in decisions related to the development of opportunities. For this purpose, a qualitative and exploratory research approach was developed. The method used in the study was Interactive Qualitative Analysis (IQA), utilized both as a data collection and interpretation procedure. The IQA aims to generate a shared mental map among individuals on the discussed topic, identifying components and relationships between them. This mind map is the main contribution of the study. The results revealed five cognitive elements that influence opportunity development: purpose, awareness, positive socio-environmental impact, market opportunity, and personal opportunity. The procedures allowed a holistic understanding of these elements, indicating that the main driver of the entrepreneurial process is purpose, followed by awareness, both in a causal position in the opportunity development system. As for the affinities positive socio-environmental impact, market opportunity, and personal opportunity, these are the primary results or effects resulting from the model, which are interrelated as part of cycle of continuous influence. From a practical perspective, the results of this study can support public policies favorable to social businesses, promoting social innovation and sustainability. Additionally, the proposed mental model offers valuable insights to entrepreneurs, guiding them in identifying and exploring opportunities, and encouraging the creation of new social businesses.

*Keywords: Entrepreneurial opportunities. Mental models. Entrepreneurial cognition. Cognitive elements. Social businesses.*

## **INTRODUCTION**

The entrepreneurial capacity of the population drives job creation, develops products and services for the market, and inspires innovative solutions across various sectors (Kuratko et al., 2021; Lobo et al., 2023), fostering sustainable and equitable national development. In this context, social businesses

emerge as an innovative organizational form recognized for their contribution to social entrepreneurship, playing a crucial role in advancing sustainable development (Comini et al., 2012; Petrini et al., 2016; Al-Qudah et al., 2021). Contributing to explore this importance, the article aims to analyze the mental models of social business entrepreneurs from the perspective of their cognitive elements in decisions regarding the development of opportunities. To achieve this, the Interactive Qualitative Analysis, proposed by Northcutt and McCoy (2004), was employed.

Social businesses, as defined by Barki et al. (2020), are mission-driven organizations seeking to address socio-environmental challenges efficiently and financially sustainably, using market mechanisms. This emergence is motivated by the difficulty of the public sector and NGOs in promoting economic development due to a lack of resources and organizational capabilities (Porter and Kramer, 2011).

Despite the growing interest in the subject, there are gaps that require investigation, especially concerning the process of opportunity development in this context. It is crucial to analyze what drives entrepreneurs to identify and explore social opportunities (Nsereko, 2022; Kaushik and Tewari, 2023). Therefore, understanding the process and cognitive factors shaping judgments about opportunities is decisive in determining under which conditions entrepreneurial activity is most likely (Wood et al., 2014). Cognitive elements play a fundamental role, influencing entrepreneurs' capabilities and being beneficial in the discovery and creation of business opportunities (He et al., 2020). These elements organize information stored in memory, acting as "models" that allow some individuals to perceive connections between seemingly unrelated points for others (Baron, 2006), known as mental models (Wood et al., 2014). To discuss the topic, the article is structured into the following sections: theoretical foundation, methodology, presentation of results and discussion, concluding with final considerations.

## **SOCIAL BUSINESS AND ENTREPRENEURIAL COGNITION**

Social businesses, highlighted as an innovative form of organization, represent an alternative seeking to integrate the best of the third and second sectors to generate positive social impact (Barki et al., 2020). These organizations, also called social enterprises, inclusive businesses, and social businesses, are essential for achieving sustainable development, prioritizing the resolution of social demands and financial self-sustainability (Comini et al., 2012; Barki et al., 2020).

In the business models of social enterprises, the prioritization of social value creation over economic value stands out (Littlewood; Holt, 2018). They cannot rely on replicating business models primarily focused on economic profit, requiring the development of a specific model (Yunus et al., 2010), reflecting organizational hybridity that combines different institutional logics (Gupta et al., 2020; Wilson and Post, 2013; Barki et al., 2020). In the context of social businesses, entrepreneurial opportunities are defined as "situations in which new combinations of means-ends in socio-economic

environments can be created or optimized and that maintain value for a limited period" (Zur, 2015, p. 79). Opportunities are thus perceived based on existing needs for social value creation, involving cognitive elements such as prior experience, risk propensity, and social capital (Nsereko et al., 2022; Bezerra-de-Sousa et al., 2022; Zulfiqar, 2019).

As entrepreneurial behavior is influenced by cognitive or mental processes, a research line has emerged in academia that aims to study entrepreneurship from a cognitive perspective to investigate how individuals obtain, process, and use information (Madzikanda et al., 2022). Thus, the theory of entrepreneurial cognition uses cognitive psychology to analyze how entrepreneurs think when launching businesses and exploring opportunities (Chen et al., 2020) and employs mental models to gather information and identify opportunities, seeking to understand why they do what they do (Kuratko et al., 2020).

Entrepreneurial cognition is defined as knowledge structures used in the assessment of opportunities, in the creation of ventures, and in growth (Mitchell et al., 2002). Entrepreneurs perceive opportunities through simultaneous and repetitive cognitive activities, influenced by cognitive factors enhancing their abilities in discovering and creating opportunities (Pryor et al., 2016; He et al., 2020; Wood et al., 2014). Thus, Poblete (2019) suggests that although perceptions are influenced by external factors shaping interpretations, the definition of what constitutes a good opportunity occurs at the individual level.

Cognitive elements play a fundamental role in the entrepreneurial process. In the context of traditional entrepreneurship, notable elements include prior experience (Frederiks et al., 2019; Gamero & Ostos, 2020; Nicolaou et al., 2019; Westhead et al., 2005), knowledge domain (Alomani et al., 2022; Mensah et al., 2021; Milan et al., 2010), previous failure (Klimas et al., 2021; Wood et al., 2014), risk propensity (Alomani et al., 2022; Fillis & Rentschler, 2010; Tabares et al., 2021; Zaleskiewicz et al., 2020), overconfidence (Alomani et al., 2022; De Carolis & Saporito, 2006), optimism (Shepherd et al., 2015; Poblete, 2019), creativity (Gamero & Ostos, 2020; Fillis & Rentschler, 2010; Tabares et al., 2021), social capital (Alomani et al., 2022; De Carolis & Saporito, 2006; Gamero & Ostos, 2020; Huang et al., 2022), moral reflection (Milan et al., 2010; Shepherd et al., 2015), metacognitive thinking (Bastian & Zucchella, 2022; Gilbert-Saad, 2023; Haynie & Shepherd, 2009; Majeed, 2022; De Winnaar & Scholtz, 2020), self-efficacy (Camelo-Ordaz et al., 2020; Doanh, 2021; Tabares et al., 2021), curiosity (Arikan et al., 2020), cognitive flexibility (Lenartowicz, 2019), schema alertness (Mensah et al., 2021), counterfactual thinking (Frederiks et al., 2019; Mensah et al., 2021), prospective thinking (Frederiks et al., 2019), perspective-taking (Frederiks et al., 2019), and desire (Alomani et al., 2022).

In the realm of social entrepreneurship, there is a knowledge gap regarding cognitive reasoning in the search for social opportunities, highlighting the need for further exploration in this area (Hockerts,

2015; Munõz, 2018). Despite this gap, some cognitive elements of social business entrepreneurs are found in studies focused on this context, including self-perception of opportunities (Nicolás et al., 2018), self-perception of capabilities (Nicolás et al., 2018), fear of failure (Nicolás et al., 2018), commitment escalation (Hietschold & Voegtlin, 2021), illusion of control (Hietschold & Voegtlin, 2021), perceived sustainable convenience (Arru, 2020), behavioral control (Arru, 2020), attitude toward sustainability (Arru, 2020), social empathy (Zulfiquar et al., 2019), prior experience (Wanyoike & Maseno, 2021; Ghazali et al., 2021; Nsereko, 2021), risk propensity (Arru, 2020), overconfidence (Hietschold & Voegtlin, 2021), social capital (Zulfiquar et al., 2019), self-efficacy (Arru, 2020; Nicolás et al., 2018), creativity (Lemaire, 2022), and financial security (Ukil et al., 2023).

## METHODOLOGY

To achieve the objective, the study employed Interactive Qualitative Analysis (IQA) by Northcutt and McCoy (2004), a methodology that combines the quantitative rigor of Total Quality Management (TQM) with a qualitative project for data collection and analysis. The method aims to create, from a focus group, a shared mental map of individuals on the addressed topic and identify relationships between these components.

### *Research design*

According to Northcutt and McCoy (2004), the research planning encompasses three stages in the design phase: a) problem formulation; b) definition of constituent groups, and c) research question formulation. The research problem accompanying this study is: "How are the mental models of social business entrepreneurs characterized, from the perspective of their cognitive elements, in decisions about the development of opportunities?"

Subsequently, the definition of research participants, called constituents (Northcutt & McCoy, 2004). The research participant group consists of founding entrepreneurs of Brazilian social businesses who identified and explored a social entrepreneurial opportunity at least 2 years ago and are still leading the enterprise. These individuals should be responsible for decisions related to entrepreneurial opportunities. Eight social business entrepreneurs agreed to participate and contribute to the research. The confidentiality of the research participants was ensured by concealing the municipality and the names of the participants and their companies, naming them only as Entrepreneur 1, Entrepreneur 2, and so forth until Entrepreneur 8.

### *Focus group facilitation and data analysis*

The focus group aims to identify the "pieces of the map," referred to as affinities by Northcutt and McCoy (2004). In this study, the focus group was conducted online through a web conferencing tool

and lasted two hours and twenty minutes. In this phase, the "silent brainstorming" occurs, in which participants must write their experiences on cards based on their reflection on the research's guiding question (Northcutt and McCoy, 2004). To assist, the Padlet tool was used to create a collaborative and interactive virtual board. Participants accessed the virtual board link, and the researcher retrieved the key question from the focus group, asking respondents to reflect on their experience with the study's phenomenon and type their thoughts on the board (one per card, preferably using short words or phrases).

Up to this point, each participant could only see their own cards, and only the researcher could see everyone's cards. This was done to avoid external influences during the process. After 15 minutes, the entrepreneurs finished, and the researcher enabled all cards to be visible on the screen for all participants. A total of 74 cards resulted, displayed on the screen without any defined order or identification of who wrote them. Next, the researcher read each card to the group to ensure everyone had the same understanding, and participants were invited to reach a consensus on the meaning of each card, organizing them into categories and placing them in columns by groups of meaning (affinities). This process is called inductive coding because the participants themselves classify the categories, also establishing their respective names (Northcutt & McCoy, 2004).

With the affinities created, the focus group's final objective is to analyze the relationship between affinities, using a form called the Affinity Relationship Table (ART). Each participant filled out this form online through the Google Forms tool. It included questions about the relationship of each pair of affinities, with three possible response options:  $A > B$  (A influences B),  $A < B$  (B influences A), and  $A \diamond B$  (no relationship). This step is called theoretical coding. This form was sent to the participants by email, and after everyone filled it out, the focus group was concluded.

Then, to create the mental map resulting from the focus group, the researcher initiated the data analysis. Firstly, the count of each relationship between affinities was carried out, considering the ART of each participant and recording the sum of frequencies for each pair of relationships in an Excel spreadsheet. With this data, the Affinity Theoretical Coding Frequency Table was created. In this study, 20 relationships were established between the pairs of affinities pointed out by entrepreneurs and classified in descending order.

As indicated by Northcutt and McCoy (2004), the Pareto principles were used to select the affinity pairs to be considered in building the mental map resulting from the focus group. Thus, when the cumulative percentage of frequencies reaches 80, it should be the selection point for affinities, considering that the greatest variance is included in these relationships. According to the cutoff line in this study, the cumulative percentage of frequencies reaches 82.2% on the twelfth relationship pair between affinities ( $3 < 5$ ), accumulating 60% of the relationships. Additionally, Northcutt and McCoy

(2004) recommend eliminating ambiguous relationships, i.e., those that receive votes in both directions. Following these recommendations, two relationship pairs were eliminated ( $1 > 5$  and  $3 < 5$ ), leaving ten pairs considered for the mental map's construction. These were used to create the Interrelationship Diagram (IRD) of the focus group.

In this diagram, each of the ten pairs of affinity relationships was inserted twice. Each arrow destined from an affinity was counted as an out, and each received arrow was considered an in. Based on the number of ins and outs, the delta value was calculated ( $\text{delta} = \text{outs} - \text{ins}$ ). So that the diagram could indicate the position of each affinity in the system, it was arranged in descending order of delta. Thus, in this study, the awareness (1) and purpose (5) affinities are the primary drivers of the system, followed by the market opportunity (3) affinity, which is the pivot. The positive socio-environmental impact (2) and personal opportunity (4) affinities are the primary outcomes of the system, i.e., they are the affinities that receive the most influences from others, considered the dependent variables in the system. In this diagram, there were no secondary drivers and secondary outcomes.

Northcutt and McCoy (2004) indicate that the fact that the IRD presents different values from zero in all inputs and outputs does not mean that there is no primary motivator or outcome. Instead, it indicates that the affinity or affinities are a strong relative cause or effect but are still influenced by or influence other affinities. In this case, it is appropriate to name these affinities as primary. After analyzing the information, a mental map called the System Influence Diagram (SID) was generated as the result of the focus group.

### *Interviews*

In this phase, semi-structured individual interviews took place with the focus group participants, aiming for a more detailed description of each affinity highlighted in the previous phase and a better understanding of how the entrepreneur perceives the relationships presented in the mental map. The idea is to obtain the experiential viewpoint of each individual (Northcutt & McCoy, 2004). The eight interviews were also conducted online through the Microsoft Teams web conferencing tool in November 2023. All interviews were recorded and later transcribed, totaling 7 hours and 50 minutes of recording and 220 pages of transcription. A content analysis of the transcribed material was performed using the MAXQDA Analytics Pro software, version 24. The interview results are presented and discussed in the following topic.

## **PRESENTATION AND DISCUSSION OF RESULTS**

In this section, the research results are presented and discussed, starting with the description of each affinity from the entrepreneurs' perspective and then moving on to the identification of perceived



relationships between affinities, combining theoretical coding interviews.

The **purpose** is defined by entrepreneurs as "what makes me wake up every day, working on activities related to my values." Some participants reported that this category connects with all others, as it is what drives and gives meaning to everything. Thus, identified opportunities are connected to the entrepreneurs' purpose, as exemplified in the following excerpt:

*"This category, I think, stitches everything together because nothing would make sense if it weren't something I strongly believed in, right? Regardless of everything, I need to believe in the process, in the mission. And in the effects too because it's not just financial; we're at a point on the planet that has become unsustainable. So, for me, nothing would make sense if it weren't in harmony with the development of the planet, new ways of acting on the planet, understanding our role as human beings in the world." – Entrepreneur 8*

Entrepreneurs' perception aligns with Wilson and Post (2013), who emphasize social mission as the driving principle for social businesses. Thus, the cognitive element of social empathy (Zulfiquar, 2019) emerges, where social entrepreneurs try to view their business from the perspective of societal aspirations. The cognitive element of compassion also aligns with what entrepreneurs addressed in this category, as the entrepreneur emphasizes others over personal gains (Zur, 2015). Another perceived cognitive element is moral reflection (Shepherd et al., 2015). According to Gupta et al. (2020), social entrepreneurs have a desire to take actions that assist in social changes and addressing social problems, as they are motivated by a sense of commitment and ethical responsibility to help society.

**Awareness** can be defined as the means of generating impact through awareness. In the development of opportunities, entrepreneurs evaluated this aspect, as through their previous knowledge and their business, they raise awareness and provide socio-environmental education to society, as perceived in Entrepreneur 3's interview:

*"People also want to receive information, so they need information, whether for their own lives or even for her other businesses. And so, from what we know, from our knowledge, we can use that to pass on to other people, right?" – Entrepreneur 3*

This sense of responsibility to raise awareness among others, identified in these statements, seems to go beyond the possession of knowledge itself, as Milan et al. (2010) and Alomani (2022) describe that knowledge mastery involves technical notions and knowledge about the environment. It is evident that there is also a knowledge socialization movement, stemming from the knowledge acquired by the social entrepreneur. In this sense, entrepreneurs emphasize that through their human capital and knowledge mastery, they bring awareness to society.

This also seems to reinforce the cognitive element of social empathy, presented by Zulfiquar (2019), which relates to this category in the sense that the social entrepreneur desires to contribute to the environment in which they are embedded. This occurs, for example, with the fact that the social entrepreneur not only has knowledge for themselves but also shares it with others. Entrepreneur 6's statement reflects this situation: "So generating this awareness in people, wherever I am, is my mission; I am an evangelist, I am a prophet of nature.", Another cognitive element present is social consciousness (Zur, 2015), which directs the entrepreneur's attention to the social arena and the achievement of social objectives. More recently, Viswanath and Reddy (2024) also indicate that social awareness is crucial for recognizing opportunities, as involvement with communities and interaction with social issues enhance the ability to identify and creatively solve challenges.

The **positive socio-environmental impact** category, considered in the process of opportunity development, was defined by the participants as "positive socio-environmental impacts resulting from involvement in social businesses." Entrepreneurs show great care in this regard, considering it crucial for their business. The statement of Entrepreneur 1 provides an example of a socio-environmental impact report your company:

*"We always talked about this residue, and people would ask: 'Why do you do that?' So from that, we really started to see that we needed to talk much more about, in addition to awareness, the impact we generate. How much waste we've removed, how much residue we've taken out of an industry and returned to that industry as a reinterpreted material. We also always show on social media everything that remains from our production, where it goes. [...] This environmental impact has always been very important; we always take great care, really take great care. Because it started like this; the company already started certain. So, if we do something different from that, it doesn't make sense. So we always take great care." – Entrepreneur 1*

From the entrepreneurs' statements emerges a connection with the social profit equation of the social business model proposed by Petrini et al. (2016). This component refers to the elements of the business that generate social impact. According to what Arru (2020) pointed out about sustainable self-efficacy, individuals believe in their ability to generate significant social and environmental impact. This belief is briefly evidenced by Entrepreneur 4, who says: "So the impact we cause is very significant, very significant." Thus, there is a concern about impact, its measurement, and the perception that it makes a social and environmental difference.

**Market opportunity** is another affinity, defined by entrepreneurs as gaps in the market where financial returns and positive impact can be obtained. Entrepreneurs perceived opportunities for various reasons, including previous knowledge of the subject, a pain or need of the target audience, previous

experience with the situation, and participation in entrepreneurship events that made the entrepreneur see such opportunities. The statement of Entrepreneur 2 exemplify some of these situations:

*"The business starts from the pain of the rural producer, which is the distribution of production, productive planning. Another pain of the rural producer is the value paid for the products, so it starts from there. But consequently, on the other end, there is the consumer who is concerned about consuming products closer, products more... well, concerned about all these other points. [...] But the reality, my family, well, the people I know, in different regions, this pain was identified. Of course, then there was all the research, surveys, articles, and so on." – Entrepreneur 2*

The results synthesized in the statement of the entrepreneur, but also present among others, align with Da Costa et al. (2007), Yitshaki and Kropp (2015), Arentz (2013), Wood et al. (2014), and Nsereko (2021), assessing that the discovery of opportunities in the social context is based on life experiences, access to information, previous knowledge, causing some individuals to recognize opportunities while others do not. Previous experience with the social problem makes the entrepreneur more familiar with the context and more engaged in creating a social organization (Hockerts et al. 2017, Bezerra-de-Souza et al., 2022; Ghazali, 2021). According to Viswanath and Reddy (2024), life experiences remind social entrepreneurs of the needs and challenges of communities, motivating them to seek innovative and transformative solutions.

In this category, the cognitive element of social capital is also observed, as mentioned by entrepreneur 1, who discussed participation in events, building a network of partners, as well as involvement in an incubator. The creativity (Lemaire, 2022) can also be identified in the entrepreneurs' statements, as they used available resources to solve a situation. The sociological imagination (Zur, 2015), and business idea, risk propensity, and market viability, proposed by Behling (2019), are also present cognitive elements.

When evaluating a market opportunity, entrepreneurs also consider **personal opportunity**. Participants identified in their statements the importance of generating income (short and long term), being able to work with something that fits their reality and that they like and makes sense for their lives, as well as being able to help others with their business. An example of this is mentioned by Entrepreneur 4.

*"When we started earning, I mainly stopped and said: 'Man, a business was born.' Because I've been a public servant, I've been a sales representative. I said: 'Man, I want to have my own business, something I believe in, right.' And since the kids were already supporting themselves, studying, I said: 'Man, it's the time I have now to lead my life, do what I like, right.'" – Entrepreneur 4*

The results of this category are related to what Nicolaou et al. (2019) presented, stating that individual circumstances and life changes can make the entrepreneur more aware of a more attractive opportunity. Wanyoike and Maseno (2021) also corroborate in analyzing that motivation has a common trait in which the trigger is intensely personal due to a closer proximity to the problem. Additionally, the cognitive element of self-perception of capabilities is also present. It suggests that the perception of one's own abilities, feeling capable of performing the action, helps the individual decide to undertake (Nicolás et al., 2018). For example, Entrepreneur 3 states: "And so, as I already knew and had gone, I wanted to bring and multiply this knowledge." The desire to establish a new venture is an important cognitive factor, as entrepreneurs who want to start a business are likely to be more persistent in creating new ventures (Alomani et al., 2022). This situation can be observed in Entrepreneur 4's statement:

*"Now I think I found my path." [...] I really found an opportunity to do what I like. And of course, generate income because it's a startup, it's in a good moment in innovation and everything, so I can grow, build my business. Because I worked my whole life for others, and now I decided to work for myself."*

Another cognitive element related to this affinity is personal motivation, as indicated by Behling (2019), since it points out that motivations for entrepreneurial opportunity development include financial return, recognition, family influences, and freedom of action. Ukil et al. (2023) also analyze that perceived financial security is also an important aspect for the entrepreneur.

After describing the five affinities, we move on to the second part of the interviews, where entrepreneurs were questioned again about the perceived relationships between these affinities, which will be presented next. In the second part of the interview, the researcher accessed a blank Affinity Relationship Table (ART) questionnaire through Google Forms for the participant to classify the influences between affinities again, reflecting and explaining the reason for their decision with examples from their reality. As described in the focus group processing stage, participants had three possible response options:  $A > B$  (A influences B),  $A < B$  (B influences A), and  $A \diamond B$  (no relationship). It is important to clarify that entrepreneurs did not have access to the ART that was filled out previously in the focus group.

With the analyses conducted, the researcher created a new System Influence Diagram, aiming to triangulate these new data with the diagram generated in the focus group. The construction of this second map followed the same SID protocol developed from the focus group. Thus, in this new map, resulting from the interviews, the purpose affinity is the primary driver of the system, followed by awareness as the secondary driver. The personal opportunity, market opportunity, and positive socio-

environmental impact affinities appeared as primary results, being the ones most influenced by others. In this diagram, there were no pivot and secondary result topological zones. Thus, to bring together the main results of this study, figure 1 presents the five affinities of social business entrepreneurs' mental models in the process of developing entrepreneurial opportunities, the most relevant factors identified in each affinity, as well as their interrelationships that configure the system of influences.

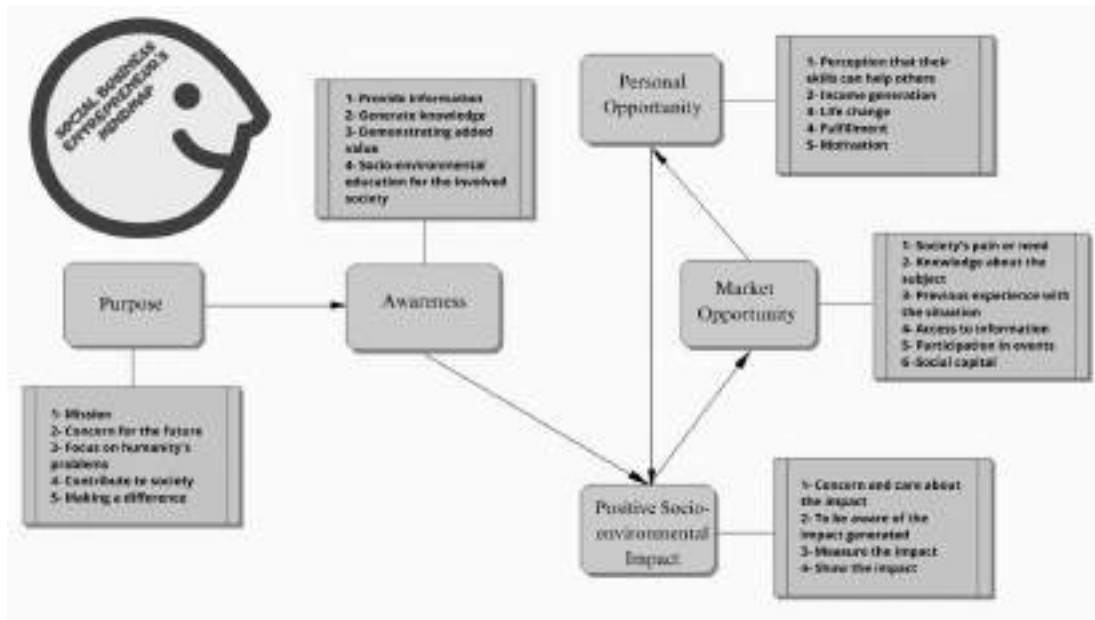


Figure 1 - Social business entrepreneur's mindmap

When analyzing the relationships, the exposed mind map demonstrates an influence arrow starting from the primary driver purpose to the secondary driver awareness. Regarding this relationship, entrepreneur 7 mentions: "Because if you have a purpose, you want to raise awareness." Awareness, in turn, generates positive socio-environmental impact, as mentioned by entrepreneur 8: "I think that through awareness, people start to behave differently towards the environment." Positive socio-environmental impact influences the entrepreneur to see a market opportunity, as stated by entrepreneur 3: "But often the market also proves that it needs to be changed, so I see there is an opportunity there." Regarding market opportunity, entrepreneurs believe that it influences personal opportunity, as can be observed in entrepreneur 1's statement: "It was from the opportunity I saw in the market that I began to create opportunities for myself and others."

Personal opportunity, in turn, influences positive socio-environmental impact, as exposed by entrepreneur 7: "It's a personal opportunity that gives an opportunity to talk about the impact." Having established these relationships, it is noted that among the 3 affinities identified as primary outcomes of the system, positive socio-environmental impact, market opportunity, and personal opportunity, there was a continuous cycle of relationships, meaning that each affinity is influencing the other, directly or indirectly. Northcutt and McCoy (2004) refer to this relationship as a Feedback Loop or Cycle of feedbacks, since the variables influence each other mutually.

Based on the results, the resulting mind map from the study may resemble that outlined by Boszczowski and Teixeira (2012), highlighting important requirements in the development of social opportunities. They emphasize that the identified need must be a socio-environmental problem. The social mission, defined as purpose by the research participants and considered a primary driver in both the focus group outcome and individual interviews, is highlighted by Wilson and Post (2013) and Syrja et al. (2019) as the motivating principle of social businesses, driving the persistent pursuit of the enterprise's objectives. Through this purpose, entrepreneurs identify needs to create sustainable social value, aiming to improve social well-being and develop long-term projects (Sastre-Castillo et al., 2015). This affinity is considered an inductor of the other model's affinities, as indicated by Northcutt and McCoy (2004). Sales (2022) illustrates this influence by relating that the goal of a social business is to generate social impact from its main activities, rather than as an unintended effect.

According to Boszczowski and Teixeira (2012), entrepreneurs must recognize how they will address the problem in the opportunity identification process. In the study's mind map, awareness (secondary driver) is seen by the entrepreneur as a way to contribute to society through the application of knowledge. Consequently, the generation of positive socio-environmental impact (primary outcome) also contributes to this. The entrepreneur, in a cognitive manner, must gather this information into something coherent that can be called an opportunity. This relates to the categories of market opportunity and personal opportunity proposed in this study, as they appear as primary outcomes or effects of the system. The entrepreneur identifies market opportunities that have not yet been explored, also having personal opportunities with this process (Boszczowski and Teixeira, 2012).

Finally, as evidenced, opportunities are generated from an existing need for social value creation, meaning the need already existed before social opportunities were implemented which can be considered as exogenous. However, as Sharma et al. (2021) pointed out, in the identification, development, and exploration of opportunities, cognition plays an intrinsic role and involves exploring the individual traits of the entrepreneur. This reflects an endogenous aspect of the social entrepreneur, present in the interviews, such as cognitive elements like self-perception of capabilities (Nicolás et al., 2018), social empathy (Zulfiqar et al., 2019), previous experience (Ghazali et al., 2021; Nsereko, 2021), social capital (Zulfiqar et al., 2019), and self-efficacy (Arru, 2020; Nicolás et al., 2018).

## **FINAL CONSIDERATIONS**

In a scenario filled with social and environmental challenges, social business entrepreneurs, despite still having limited presence, are gradually playing a crucial role in addressing these issues. By exploring socio-environmental opportunities, they generate social value and establish new business models, contributing to solving pressing problems. To understand how these entrepreneurs perceive

opportunity, this research analyzed the mental models of social business entrepreneurs from the perspective of their cognitive elements in decision-making regarding opportunity development. The main theoretical contribution of the study was the construction of the shared mental model of social business entrepreneurs in the domain of opportunity development, formed by cognitive elements that interrelate to determine, in the perception of the entrepreneurs, the attractiveness of an opportunity.

We identified the cognitive elements of mental models of social business entrepreneurs that influence opportunity development: purpose, awareness, positive socio-environmental impact, market opportunity, and personal opportunity. The model configuration presented purpose as the primary driver and awareness as the secondary driver, both considered causes in the opportunity development system. The positive socio-environmental impact, market opportunity, and personal opportunity were identified as primary results of the model. These represent the resulting effect of the system, present in a cycle of influence, called a feedback loop, meaning they affect and are mutually affected.

Regarding entrepreneurial opportunities, it is possible to perceive that they are linked to purpose. Entrepreneurs primarily use their social empathy, compassion, and moral reflection in their actions, as they aim to contribute to the society they are part of. As for awareness, a strong influence of knowledge domain can be observed, along with an additional movement of knowledge socialization, since through it, the entrepreneur generates socio-environmental education. Additionally, the cognitive elements of social empathy and social consciousness are perceived, relating to the definitions of social entrepreneurs found in the literature.

As for positive socio-environmental impact, entrepreneurs seek to measure it, both to recognize the effects of their actions and to promote changes in social perception and behavior, as well as to attract interest in their business model. This reflects the sustainable self-efficacy cognitive element, feeling capable of generating a proposed impact. Regarding market opportunity, the elements of previous experience, knowledge domain, creativity, sociological imagination, business idea, risk propensity, market viability and social capital influence the opportunities identified by entrepreneurs. The empirical findings of this affinity also contribute to the previous literature by noting that the entrepreneur identifies the opportunity based on an existing need in society. Finally, in personal opportunity, the self-perception of capabilities, optimism, personal motivation and a desire to establish a new venture, are noticeable cognitive elements.

Thus, it is highlighted that the cognitive elements that resulted from this study, labeled as purpose, awareness, positive socio-environmental impact, market opportunity, and personal opportunity, and presented together as a mind map, had not been previously found in the literature, but they relate to some aspects of the researched theory. Additionally, this result allowed us to visualize in a holistic way how entrepreneurs think about the opportunity. Furthermore, some of the cognitive elements of social

entrepreneurship that already exist in the literature were not evidenced in the reports of the participating entrepreneurs. Among them are self-perception of opportunities, fear of failure, escalation of commitment, control illusion, perceived sustainable convenience, behavioral control and attitude towards sustainability.

Considering the reflections presented and returning to the research question that guided this study on the characterization of the mental models of social business entrepreneurs, focusing on their cognitive elements in decisions related to opportunity development, it is highlighted that purpose emerges as the main driver of this entrepreneurial process. This cognitive element, based on the motivation to contribute to the improvement of the world, transcends the scope of the entrepreneur's actions. Purpose not only guides them to be a change agent but also guides them in the application of their knowledge, with an emphasis on awareness, positively influencing other individuals and organizations in their sphere of relationships. Purpose, combined with the desire to raise awareness about socio-environmental issues, leads the social entrepreneur to recognize the possibility of generating positive impact, identifying market opportunities not yet explored by other organizations. This process, therefore, not only results in personal opportunities, income, and fulfillment but also contributes to the construction of a broader positive socio-environmental impact, consisting of a constant loop. Thus, the opportunity in social businesses is configured at the intersection of external and internal factors. In summary, the entrepreneur operates in a context with real and objective conditions, allied with their perception, shaping the scenario for the discovery and creation of opportunities.

The empirical results and the confrontation with previous literature significantly contribute to the scientific knowledge in the field. However, considering this as an exploratory study, it still opens possibilities for future research, such as a comparative analysis of social entrepreneurs focusing on businesses exclusively addressing environmental or social demands. Exploring the model for studies in other regions of the country, comparing possible regional differences, is also a fertile path for research. Furthermore, future research can use the identified model and affinities for the construction of evaluation scales, allowing quantitative studies with expanded samples.

From a practical standpoint, the findings of this study have the potential to inform public policies favorable to social businesses, promoting social innovation and sustainability. Additionally, they offer valuable insights applicable to interested entrepreneurs, encouraging the creation of new businesses. By sharing this accessible knowledge, the research contributes to empowering entrepreneurs, encouraging the formation of ventures that not only thrive in the market but also generate positive and sustainable impact in their communities and the environment.

In relation to the methodology, this study also contributes by using Interactive Qualitative Analysis (IQA) in the field of administration, filling a gap in the literature (Behling et al., 2019). Additionally, the



study may have advanced by conducting the focus group and interviews online, as there is no knowledge of online focus groups, only interviews. This approach may facilitate the application of IQA in further research, bringing together groups with similar characteristics but in different regions.

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## EXPLORING THE INTERSECTION BETWEEN LUXURY FASHION AND SUSTAINABILITY. A BIBLIOMETRIC ANALYSIS

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### ABSTRACT

In a context where governments and institutions are pushing to sustainable development, luxury fashion industry received criticism for its negative social and environmental impact. Although firms are investing in sustainable business practise they are still susceptible to the scrutiny of consumers. The need to explore the intersection of luxury fashion and sustainability is increasingly gain significance as the perception that two issues are opposed is taking hold.

This work undertakes a systematic literature review to identify relevant literature dealing with luxury fashion and sustainability. The review was performed through a bibliometric analysis on 418 primary works, retrieved from Web of Science (WoS) database.

Co-occurrence analysis of keywords identified three main clusters in literature. The first cluster focuses on consumer behaviour and perceptions. The second cluster takes a managerial perspective and explores topics such as corporate social responsibility, strategies and performance of luxury fashion companies. Finally, the third cluster is specific to customer satisfaction, and examines its determinants and moderators.

Implications for theory and practice are provided

*Keywords: luxury, sustainability, systematic literature review, bibliometric analysis*

### INTRODUCTION

Governments and institutions are increasingly advocating for sustainable development, aiming to transform the global economy into a more sustainable model for both business and consumption (OCED, 2011; Campos et al., 2020). This pressure compelling firms to transition towards sustainable business models, is attracting the interest of scholars establishing a growing trend in the literature (Demiler et al., 2019).

In this context, the luxury fashion industry presents an interesting case. Despite the uncertainty in the international arena, the global luxury fashion market was valued at USD 123.05 billion in 2022,

demonstrating remarkable resilience. Projections further suggest that the industry is expected to reach a revenue of USD 198.55 billion by 2031 (McKinsey&Company, 2023; Straitsresearch, 2024)<sup>1</sup>.

However, it is important to note that the luxury fashion industry has received criticism for its negative social and environmental impact. Firms within this industry have been called out several times for depleting natural resources (Olšanová, Gook, & Zlatić (2018), generating of pollution (Pohlmann et al. ,2022), exploiting employees, and using animals when testing new materials (Athwal, et al. 2019). As a result, luxury fashion companies are more susceptible to the scrutiny of consumers. These factors have contributed to the perception that sustainability and luxury fashion industry are fundamentally opposed (Campos et al., 2020; Grazzini et al., 2021).

On the other hand, the luxury fashion industry is actively taking steps to embrace sustainability. Many companies within the industry are compelled to communicate their commitment to sustainability as consumers are increasingly becoming more conscious of the environment and social impact of their purchasing choices (Lundbland and Davies, 2015). It is evident that, whether driven by genuine sustainability goals or engaging in potential greenwashing, luxury fashion companies are investing in sustainable business practise, contributing to the growth of sustainable fashion markets (Grazzini et al., 2021).

Within this framework, the intersection of luxury fashion and sustainability gains significance. This has prompted the current research to undertake a systematic literature review aiming to identify and systematize the relevant literature dealing with the investigated issue and ascertain its main patterns and evolutionary dynamics (Fink, 2020; Moher et al., 2009; Petticrew and Roberts, 2006; Snyder, 2019; Tranfield et al., 2003).

## METHODOLOGY

We retrieved publications from the Thomson Reuters' Web of Science (WoS) database and identified 418 primary works published by international journals that address the subjects of luxury and sustainability. The identification process was initiated by using the keywords "luxury" and "sustainab\*". Initially, the first search resulting in identifying 640 works. Subsequently, we refined our search within the following Web of Science categories: business, management, communication, environmental studies, environmental sciences, materials science multidisciplinary, material science textiles, and economics. By exclusively considering articles and reviews, our refined search resulted in the final selection of 418 primary works. We did not exclude papers from the identified dataset to ensure a comprehensive examination of the current research topic. For conducting the bibliometric analysis, we utilised the open-source bibliometrix software (Aria and Cuccurullo, 2017).

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<sup>1</sup> <https://straitresearch.com/report/luxury-fashion-market>

## RESULTS

In the following sections, we provide a concise descriptive and interpretative analysis of the relevant literature. Table 1 presents an overview of the literature, comprising 418 scientific articles published across 186 international journals. Notably, there has been a steady annual growth in the number of publications, with an average annual growth rate of 7.25% particularly in recent years. The average age of these documents is approximately 4.22 years, indicating that the research is relatively current. The identified primary studies encompass a broad spectrum of topics, as evidenced by 1,129 keywords and 1,603 authors' keywords. These publications involve the contributions 1,130 researchers, of which only 51 were single-authored producing in total 57 documents. Collaboration was indeed quite developed, with 3.03 co-authors per paper and an international co-authorship of 38.04%.

|                                 |           |
|---------------------------------|-----------|
| Timespan                        | 2001:2024 |
| Sources                         | 186       |
| Documents (articles)            | 418       |
| Annual Growth Rate %            | 7.25      |
| Document Average Age            | 4.22      |
| Average citations per doc       | 18.13     |
| References                      | 24353     |
| DOCUMENT CONTENTS               |           |
| Keywords Plus (ID)              | 1129      |
| Author's Keywords (DE)          | 1603      |
| AUTHORS                         |           |
| Authors                         | 1130      |
| Authors of single-authored docs | 51        |
| AUTHORS COLLABORATION           |           |
| Single-authored docs            | 57        |
| Co-Authors per Doc              | 3.03      |
| International co-authorships %  | 38.04     |

*Table 1. Dataset main information*

Figure 1 provides a visual representation of the growth in scientific production since 2017, indicating the increasing attention of luxury and sustainably as a topic. There have been 87 works published by international journals, an upward trend from a mere 19.

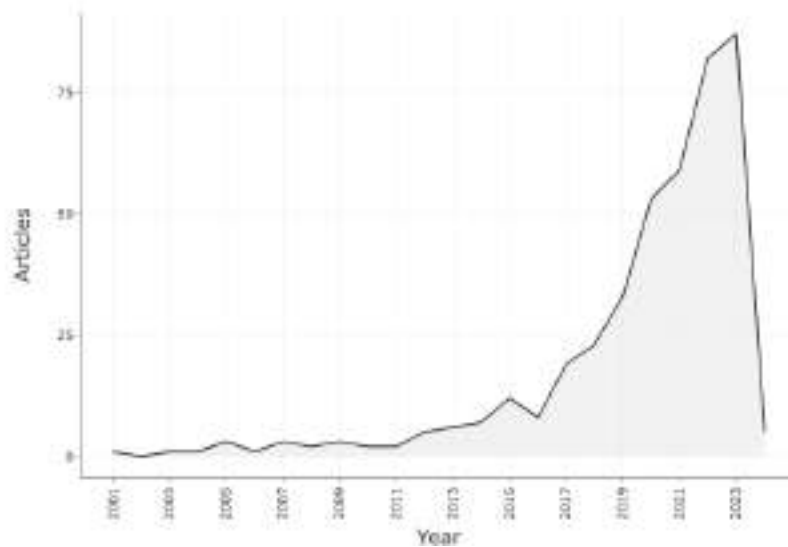


Figure 1. Annual scientific production

Figure 2 highlights the top 5 sources among 186; Sustainability (with 59 papers published in the considered timespan), Journal of Business Research (19), Journal of Cleaner Production (18), Journal of Global Fashion Marketing (13), and Asia Pacific Journal of Marketing and Logistics (9).

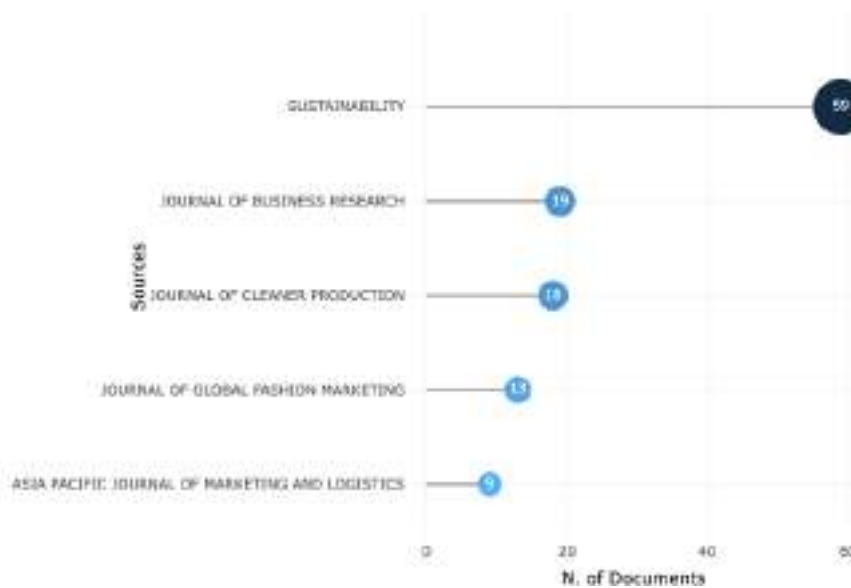


Figure 2. Most Relevant Sources

Focusing on H-index sources, Journal of Cleaner Production leads in rank, followed by Sustainability and Journal of Business Research (Figure 3).



Figure 3. Source Local Impact

Figure 4 provides an overview of the main authors’ production over time, in the field of luxury and sustainability. In this visualization, the size of each circle represents the number of published papers by the respective author, with larger circles indicating higher productivity. The darkness of each circle indicates the number of citations received by the author’s papers, with darker circles suggesting greater impact and recognition.

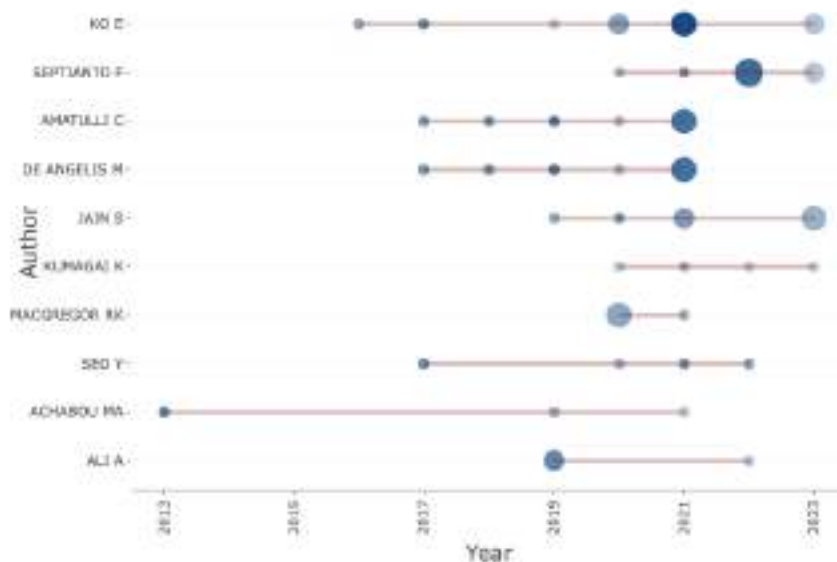


Figure 4. Authors’ Production over Time



Figure 5 illustrates the local impact of authors in the field of luxury and sustainability based on their H-index.

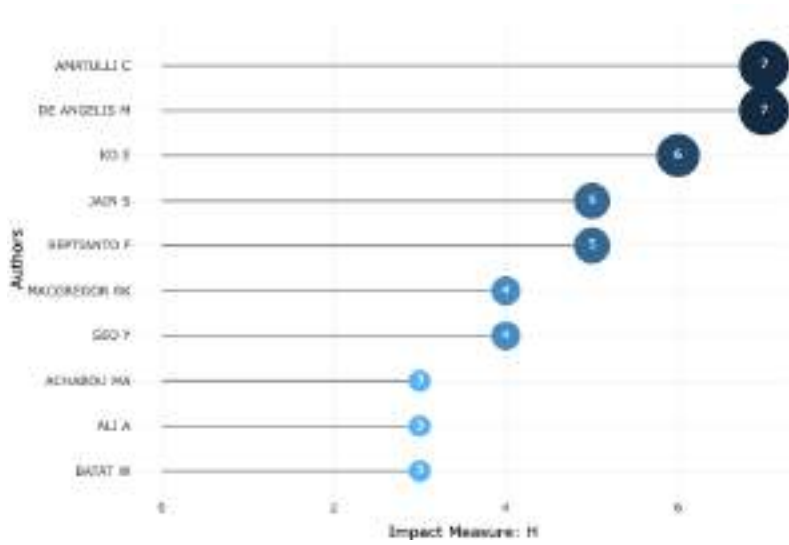


Figure 5. Author Local Impact

Figures 6 and 7 illustrate the most cited authors and the most cited documents in the context of the identified literature.

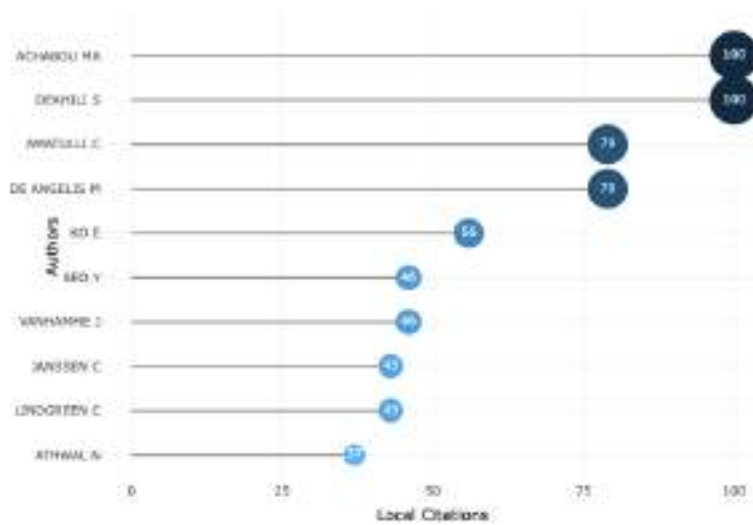


Figure 6. Most Local Cited Authors

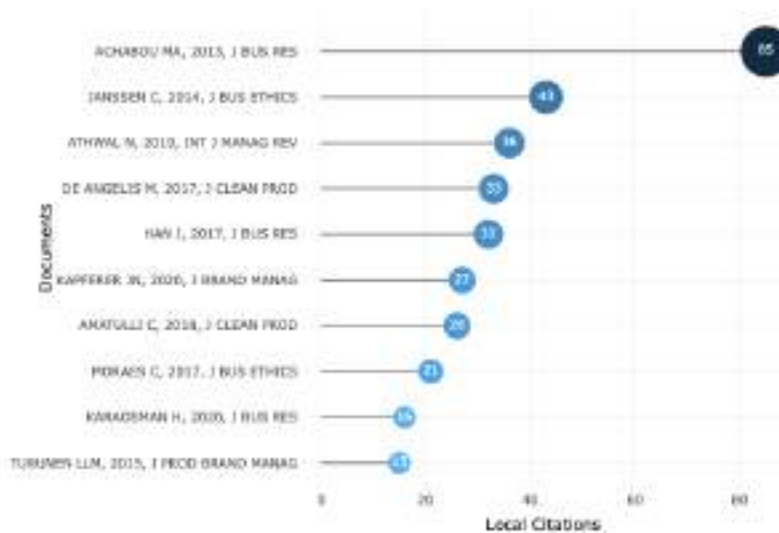


Figure 7. Most Local Cited Documents

Figure 8 provides insights into the geographical distribution of corresponding authors in the identified literature on luxury and sustainability. The data indicates that the majority of corresponding authors were based in the USA, followed by UK, Italy, China and India. Intra-country collaboration (SCP) was more prevalent than inter-country collaboration (MCP).

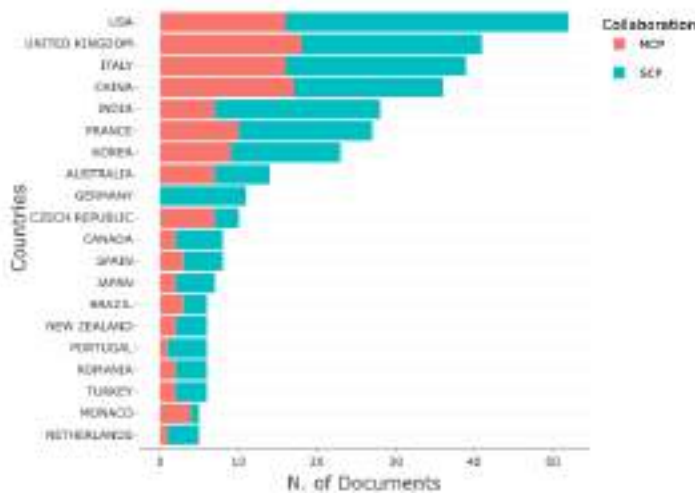


Figure 8. Corresponding Author's Country

Moving to Figure 9, the results of co-occurrence analysis of keywords in the identified literature. This analysis reveals three main clusters of the literature. The first cluster, represented in red, focuses on *consumption*, consumer behaviour and perceptions. The second cluster (blue) takes a *managerial* perspective and explores topics such as corporate social responsibility, strategies and performance of luxury fashion companies in the context of sustainability. Finally, the third cluster (green) is specific to *customer satisfaction*, and examines its determinants and moderators.

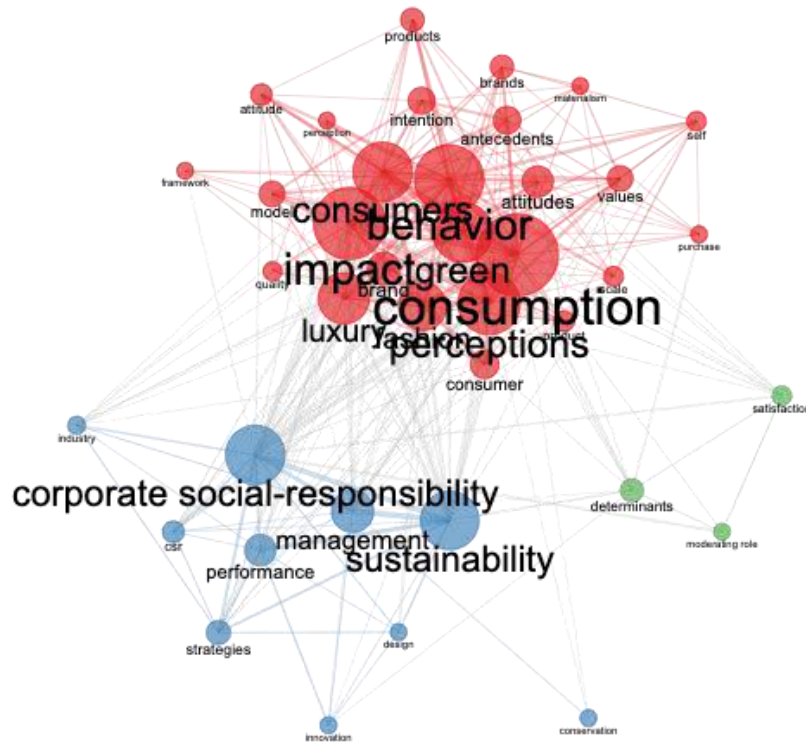


Figure 9. Co-occurrence Network

## IMPLICATIONS FOR THEORY AND PRACTICE

This systematic literature review aimed to identify and systematize the relevant literature on luxury fashion and sustainability. The findings from this study highlight the following key points: existing literature focuses on managerial aspects (first perspective) and overall firm performance in the context of sustainability, and on consumer-centric research (2<sup>nd</sup> perspective) exploring consumer behaviours and perceptions concerning sustainable luxury fashion products.

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# THE IMPACT OF FAMILY ENVIRONMENT AND ENTREPRENEURIAL INTENTION THROUGH UNIVERSITY ENVIRONMENT AMONG UNIVERSITY STUDENTS IN SPAIN

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## ABSTRACT

**Purpose.** The purpose of this paper is to investigate the mediator role that three dimensions of the university environment (educational support, concept development support and business development support) plays between the family environment and the entrepreneurial intention of university students in Spain.

**Design/methodology/approach.** An empirical study was conducted with a sample of 118 participants in the "*Emprende UGR*" project at the University of Granada, Spain. Data were obtained by a survey questionnaire. The impact of the family environment on entrepreneurial intention via three dimensions of university environment was assessed. Structural equation modelling and maximum likelihood estimation are applied to find the direction and strength of the relationships.

**Findings.** The results confirmed the positive effect of family environment on the entrepreneurial intention of students. Furthermore, this effect was strengthened by the high perception of support from the university environment, mainly support for teaching and conceptual development. The study confirmed that the university is an environment that allows the student to take advantage of the opportunities provided by the family environment, resulting in a greater willingness to engage in entrepreneurial activity.

**Originality.** The originality of the study was based on considering family and university environments as multidimensional variables. In particular, the family environment was included in the model as a second-order latent variable and the study analyzed the mediator role of three dimensions of the university environment.

## INTRODUCTION

In recent decades, European higher education institutions (HEIs) have made significant investments in entrepreneurship education programs, encompassing various activities aimed at fostering entrepreneurial skills, competencies, and attitudes among undergraduate and graduate

students (Arruti et al., 2020; Ferreira et al., 2021). Despite this upward trend, entrepreneurial intentions in Spain and other European countries remain relatively low. In particular, the Global Entrepreneurship Monitor (2022) reported that Spain ranked 42nd out of 47 countries in the Americas, Europe, Africa, and Asia in terms of entrepreneurial intention. In addition to Spain, other European countries such as Germany (43), the United Kingdom (40), and Italy (39) need to continue implementing structural changes and more effective policies to increase entrepreneurial activity, especially among young people (Crecente-Romero et al., 2019). In this sense, further research on the topic represents an opportunity to identify insightful information for practitioners to develop comprehensive strategies aimed at increasing entrepreneurial intention among younger generations.

In this context, empirical evidence on the factors that trigger entrepreneurship among young people can help determine how to strengthen entrepreneurial behavior (Lihua, 2022; Neneh, 2019; Shahab et al., 2019). In recent years, the drivers of entrepreneurial intentions of young people have been the subject of academic debate and attention. In fact, various approaches have covered the entrepreneurial intentions of individuals. Among these approaches, some authors emphasized the influence of personality traits (Şahin et al., 2019; Xu et al., 2016; Espíritu-Olmos & Sastre-Castillo, 2015), gender roles (Rahaman et al., 2020; Yukongdi and Lopa, 2017; Díaz-García and Jiménez-Moreno, 2009), education (Mukhtar et al., 2021; Mei et al., 2020; Ni and Ye, 2018) and social groups (Lingappa et al., 2020; Patuelli et al., 2020; Altinay et al., 2012). In the case of the latter approach, there is extensive empirical evidence on the influence of various social groups, highlighting the importance of family, peers, and close friends.

The family is the most important group in the process of socialization of the individual. From the earliest stages of life, the family environment plays a crucial role in the acquisition of knowledge and skills that are then used to adapt to different social environments (Zhang et al., 2021). Later in life, the family environment influences decisions about education and career choices (Rodríguez et al., 2020; Fouad et al., 2016). For example, if a person is exposed to a restrictive family environment where all members do similar work, his or her first-hand knowledge of career choices is likely to be quite limited (Eriksson et al., 2018). In terms of entrepreneurship, the family environment plays the primary role in the development of entrepreneurial intention of children by influencing personality, behavior and training to face the external environment (Moussa and Kerkeni, 2021). However, Cardella et al. (2020) noted that there is a need to deepen knowledge of this relationship and to identify the channels through which family influences entrepreneurial intention.

Within the family environment, some authors noted the important role of financial capital (Welsh et al., 2018; Aragon-Sanchez et al., 2017) and social capital (Campopiano et al., 2016; Shi et al., 2015). Dyer et al. (2014) found that financial capital provided by family members has several advantages,

especially in the early stages of the entrepreneurial process when access to traditional forms of financing is limited. Among the advantages, the authors highlighted that this type of financing has low transaction costs, can be mobilized quickly, can be transferred across generations, and is difficult to imitate. Unlike financial capital, Chang et al. (2009) indicated that family social capital contributes at different stages of the entrepreneurial process, both directly (e.g., assisting in startup tasks) and indirectly (e.g., assuming a greater share of household duties). On the other hand, a different group of authors highlight the emotional support (Cogan et al., 2022; Shen et al., 2017) and entrepreneurial role models (Chlosta et al., 2010; Van Auken et al., 2006). According to Klyver et al. (2020), emotional support helps entrepreneurs increase optimism and creativity to navigate complex scenarios and persevere through periods of uncertainty in the entrepreneurial process. Karimi et al. (2014) explored the effects of entrepreneurial role models on entrepreneurial intention using the Theory of Planned Behavior (TPB). The authors found that role models have a positive effect on the three variables that describe the TPB, and these variables positively influence the entrepreneurial intention of university students. Although previous studies attempted to treat the family environment as a first-order latent variable, to the best of the authors' knowledge, there is no previous study that treats the family environment as a second-order latent variable. In turn, it integrates financial capital, social capital, emotional support, and entrepreneurial role models as respective first-order variables.

On the other hand, the university environment provides individuals with access to technical training, networking opportunities, and infrastructure. In terms of the relationship between students and entrepreneurial intention, the empirical evidence is mixed. Although most of the literature suggests a positive relationship (Gieure et al., 2019; Gonzalez et al., 2018; Garcia-Rodriguez et al., 2017; Zollo et al., 2017), a group of authors argues that the relationship between both variables is not significant (Martinez et al., 2018; Joensuu-Salo et al., 2015; Varamäki et al., 2013). In fact, Nabi et al. (2016) found that entrepreneurship education taught in universities tends to discourage entrepreneurial intentions. When faced with the complexities and challenges of entrepreneurship, students tend to refocus on organizational careers that seem less risky and challenging. In this sense, Galvão et al. (2018) proposed to deepen the analysis of the role of universities in the entrepreneurial intention of society, based on a systematic literature review on entrepreneurship education and training. Pedagogical solutions should focus on fostering the ability of students to innovate, be more creative, and experience real-world situations (Canever et al., 2017). In this sense, it is important to identify the most relevant channels in the university environment and those that can strengthen a family background that promotes entrepreneurial intention among students. The study seeks to understand whether the relationship between resources channeled through the family environment and entrepreneurial intention could be strengthened if students had access to an appropriate

university environment. In other words, if the university provided the necessary resources for entrepreneurship, students would identify more opportunities from the resources available in the family environment, and the relationship between family environment and entrepreneurial intention would also increase. A study conducted by Kraaijenbrink et al. (2010) identified three dimensions in which universities foster entrepreneurial intention: educational support, concept development support, and business development support. These three dimensions were used in this research to describe the university environment. Most of the literature treats the university environment as a one-dimensional variable (Pineiro et al., 2022; Gubik, 2021). Even though another group of studies addressed university and family environments independently (Smirat & Shariff, 2021; Shirokova et al., 2015), it is important to know how both environments can complement each other and have a greater impact on entrepreneurial intention.

In this context, the purpose of this study was to increase knowledge about the relationship between the family environment and the three dimensions of the university environment proposed by Kraaijenbrink et al. (2010). But also, to find out how they, as a whole, can strengthen the entrepreneurial intention of university students. The study aimed to answer the following research questions:

*RQ1.* What is the relationship between family environment and entrepreneurial intention?

*RQ2a.* Is the relationship between family environment and entrepreneurial intention moderated by educational support?

*RQ2b.* Is the relationship between family environment and entrepreneurial intention moderated by concept development support?

*RQ2c.* Is the relationship between family environment and entrepreneurial intention moderated by business development support?

In order to answer the research questions, the statistical technique of structural equation modeling (SEM) was used to estimate the relationship between the previously described variables. To describe a family environment, a higher-order construct, also referred to as a hierarchical construct, was utilized. Hierarchical constructs are particularly useful when the researcher is aware that a group of factors should be considered under the same construct. Unlike one-dimensional constructs, a hierarchical construct contains multiple layered construct structures, allowing to handle multidimensional variables (Schuberth et al., 2020). The family environment was tested using a reflective-reflective second-order construct, which is the most popular model among researchers in the social sciences (Crocetta et al., 2021). Second-order family environment factors included financial capital, social capital, emotional support, and entrepreneurial role models. The estimate was based on the results of a survey of 118 participants in the "Emprende UGR" project at the University of Granada, Spain. In



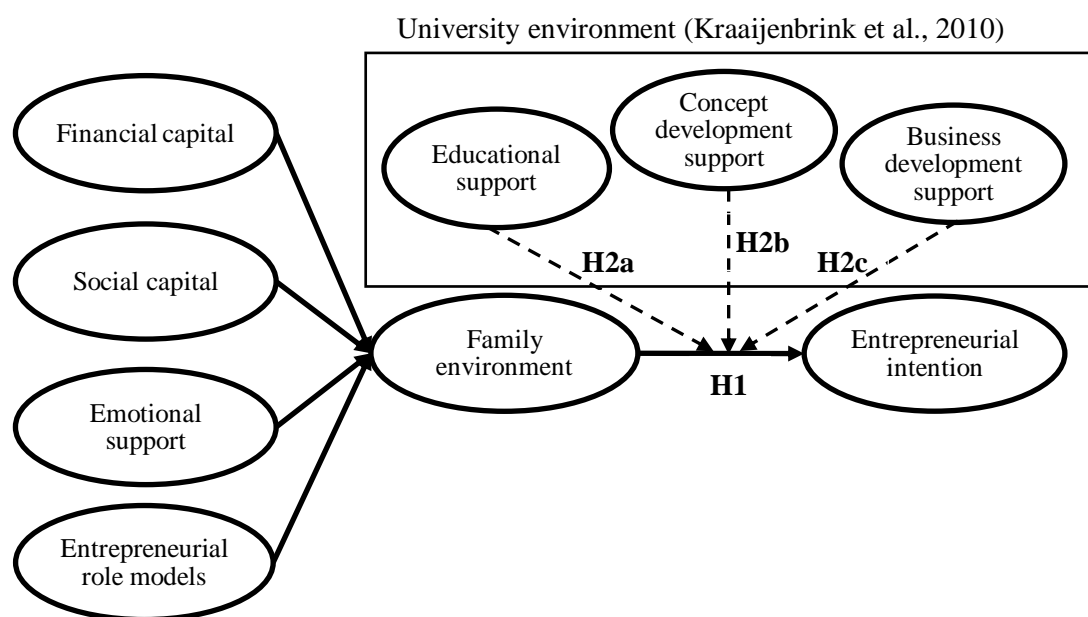
terms of the scientific novelty of this research, two elements particularly focused on the methodology were identified. First, the study included family and university environments as multidimensional variables. The family environment was included in the model as a second-order latent variable. Second, one of the techniques applied in this study involved analyzing the moderation of the university environment in the relationship between family environment and entrepreneurial intention.

The remainder of this article is divided into the following sections. Section 2 presents the theoretical framework relevant to the development of the research hypotheses that will be tested. Section 3 describes the research methodology. This includes data collection and measures. Section 4 presents the data analysis. The first part of this section describes the measurement model, while the second part details the structural model along with the results of the initially proposed hypotheses. Section 5 presents the discussion and theoretical and practical implications. Finally, Section 6 presents the limitations of the study and alternatives for future research.

## THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

The following theoretical model (see Figure 1) was developed based on the literature supporting the relationship between family environment, university environment, and entrepreneurial intention. The literature review is detailed below.

**Figure 1.** *Research model*



### ***Family Environment and Financial Capital***

Access to financial capital is a relevant factor at all stages of the entrepreneurial process (Cetindamar et al., 2012; de Bettignies and Brander, 2007; Marlow and Patton 2005). According to Peña (2002), greater access to financial capital gives entrepreneurs greater flexibility in making business decisions. However, many young entrepreneurs do not have the financial capital to turn an entrepreneurial idea into a product or service (Butkouskaya et al., 2020; Ferreira et al., 2021). In this context, Knatko et al. (2016) highlighted that family financial support is particularly important for young entrepreneurs without sufficient financial capital, which has a positive effect on entrepreneurial intentions (Cetindamar et al., 2012). Unlike other sources of financing such as banks, family financial support implies fewer rigid conditions based on kinship, which increases the entrepreneurial intention as well as the freedom of decision of the entrepreneurs (Colombatto & Melnick, 2008).

### ***Family Environment and Social Capital***

Social capital refers to the nature of social relationships and how they can be used for self-benefit (Hu, 2019). Family capital is a special type of social capital, defined as the relationships between parents, children, and other close relatives (Coleman, 1988). Hoffman et al. (2006) indicated that family social capital consists of structural and relational components. The first component refers to network ties, and the relational component refers to obligations and expectations, reputation, identity, and moral infrastructure. Some authors presented empirical evidence of a positive relationship between social capital and the intention to start a new business (Wang et al., 2021; Ali and Yousuf, 2019). For example, Sharma (2014) found that students with larger social capital networks had higher intentions to pursue entrepreneurship as a career option. In the same line, Poon et al. (2012) argued that strong family networks are important social capital for entrepreneurs as they are an important source of information and resources.

### ***Family Environment and Entrepreneurial Role Models***

Role models influence the career decision-making process by providing information, guidance, and support to individuals (Buunk et al., 2007). In the first stage of life, children are exposed to parental behavior and learn ways to act based on observation and internalization (Entrialgo & Iglesias, 2018). Later, these members of the entrepreneurial family can become a close example of the entrepreneurial experience, not only by providing an example of the entrepreneurial lifestyle, but also by providing potential opportunities that contribute to the formation of positive attitudes toward entrepreneurship (Lee et al., 2021; Wyrwich et al., 2015; Nowiński and Haddoud, 2019). For example, Entrialgo and Iglesias (2018) used the theory of planned behavior to analyze entrepreneurial intentions among

university students. The authors found that the effect of role models on entrepreneurial intention was positive and significant.

#### ***Family Environment and Emotional Support***

People who receive emotional support are more likely to experience emotional well-being and to help and support others (Nielsen, 2019; Baker, 2014). In the context of entrepreneurship, emotional support from the family is a fundamental element in the search for strength and perseverance (Cogan et al., 2022). Emotional support from family helps entrepreneurs maintain emotional stability and respond positively to stressors from uncertain environments (Tran & Santarelli, 2014). However, Arregle et al. (2013) found that this positive effect decreases when work-family conflict occurs or when family members do not understand business issues. Based on longitudinal data from different countries, Zhu et al. (2020) found that emotional support from the family strengthens and increases entrepreneurial activity. The authors concluded that a harmonious relationship between parents provides individuals with more emotional and psychological resources that could encourage them to start entrepreneurial activities. Based on this theory, the first hypothesis was proposed:

*H1. There is a positive relationship between family environment and entrepreneurial intention*

#### ***University Environment***

The university environment is considered an external factor that influences the attitudes of the individual towards entrepreneurship (Franke and Lüthje, 2004). This type of environment provides various types of resources, such as training and networking. Several authors have found a positive relationship between the university environment and the entrepreneurial intention (Çera et al., 2020; Feola et al., 2019; Gieure et al., 2019). For example, González et al. (2018) concluded that the university environment plays an important role in fostering entrepreneurial culture among students. The authors indicated that specific university courses and options related to entrepreneurship have a significant impact on the entrepreneurial intention of students. According to Wibowo et al. (2019), entrepreneurial intention increases when students believe that the university environment provides adequate preparation for starting a new business.

Kraaijenbrink et al. (2010) proposed three dimensions of the university environment that can help foster entrepreneurship among students. First, the authors emphasized that educational support influences the behavioral intentions of students by providing the knowledge and skills necessary to start a business. Second, the authors noted that universities can provide concept-development support that includes a number of activities carried out in the early stages of the entrepreneurial process and, in turn, these activities can strengthen awareness, motivation and business ideas. Third, it was identified that universities can promote entrepreneurship through the provision of business development support. In contrast to the second dimension, business development support is aimed at

start-up companies rather than individual students. In other words, this help is provided in the later stages of the entrepreneurial process.

The theoretical model proposes the positive influence of the family environment on entrepreneurial intention based on the provision of financial capital, social capital, role models, and emotional support. It also suggests that this relationship can be strengthened if students are exposed to a university environment that provides support for education, concept development, and business development. In this manner, both environments can complement each other and bolster the entrepreneurial spirit of students, contributing to the enhancement of their intention to start an enterprise. These authors led to the formulation of the following research hypotheses:

*H2a.* Educational support moderates the relationship between family environment and entrepreneurial intention

*H2b.* Concept development support moderates the relationship between family environment and entrepreneurial intention

*H2c.* Business development support moderates the relationship between family environment and entrepreneurial intention

## METHODOLOGY

### *Data Collection and Sampling*

The study was conducted in the city of Granada, Spain. The sample was made up of students from the University of Granada who participated in the course on entrepreneurship "*Emprende: Convierte tu idea en un modelo de negocio*" (Start your business: turn your idea into a business model). This course lasted six weeks and was developed by the General Coordination Office of Entrepreneurship and the Center for the Production of Resources for the Digital University (CEPRUD). A survey was used for data collection between May and December of 2022. The survey was divided into four sections. The first section included socio-demographic questions such as gender, age and socioeconomic status of the participants. The remaining sections were related to family environment, university environment, and entrepreneurial intention. Each of these last three sections included questions validated and published in indexed journals. The questions required a translation from English into Spanish. This study used the double translation method, involving two translations of the survey and a revision by two research experts to select the most accurate version (Barros and Alcadipani, 2022). Then, to verify the content and the correct presentation of the survey, a pilot test was administered to 10 participants. Following this process, no further modifications were made. The final version of the survey included 34 questions. In the first part, 122 answers were obtained. However, 4 answers were discarded for not

having satisfactorily completed the socio-demographic questions. Table 1 shows a summary of the socio-demographic characteristics of the participants.

**Table 1.** *Demographic characteristics of the sample*

| Characteristic              | Frequency | Percentage |
|-----------------------------|-----------|------------|
| Gender                      |           |            |
| Female                      | 60        | 50.8%      |
| Male                        | 58        | 49.2%      |
| Career                      |           |            |
| Natural Sciences            | 48        | 40.7%      |
| Social Sciences             | 59        | 50%        |
| Humanities                  | 11        | 9.3%       |
| Previous working experience |           |            |
| Yes                         | 76        | 35.6%      |
| No                          | 42        | 64.4%      |
| Total sample size           | 118       | 100%       |

### *Measures*

The Family Environment dimension consisted of 18 questions divided into four subsections representing each of the second-order factors in the research model. The concepts of financial and social capital were first used by Manolova et al. (2019) in a study on youth entrepreneurship in emerging markets. The authors found that high levels of family support led to a greater number of start-up activities undertaken by young entrepreneurs. In terms of financial capital, the survey included three questions related to the provision of debt and equity capital, as well as the degree of flexibility in loan terms. In the case of social capital, the survey had two questions related to the help of the family in providing contacts that help at different stages of the entrepreneurial process. The answers for both subsections were collected using a 7-point Likert scale. Emotional support included four questions about perceived support from parents, siblings, relatives, and close friends. In this case, a 7-point Likert scale was used. These questions were also used in a study of social and institutional predictors of entrepreneurial career intentions by Abebe (2012). In this study, the author found that perceived social status and perceived social support have strong positive association with entrepreneurial career intentions. The last subsection of the family environment refers to entrepreneurial role models, and in the survey, it had three questions related to the influence of role models on career path, start-up, and passion for entrepreneurship. These questions were first used in a study conducted by Yang (2019). The author evaluated the effect of role models on entrepreneurial self-efficacy and entrepreneurial intention and found a positive effect on both relationships. In this case, a 5-point Likert scale was used.

The dimension of the university environment was composed of 13 questions divided into three subsections. In contrast to the family environment, these three subsections were obtained from the same study by Kraaijenbrink et al. (2010). In this study, the authors identified three mechanisms that

universities have implemented to foster entrepreneurial intentions among students. The three dimensions proposed by the authors related to educational support, concept development support, and business development support. Educational support had six questions related to the availability of electives, project work, internships, conferences/workshops, postgraduate studies, and networking. The concept development support included four questions about the role of the university in increasing awareness, motivation, knowledge, and ideas for starting a new business. Support for business development included three questions related to support for financing and growth, as well as the use of the university's reputation to support new businesses. In the case of the university environment, all answers were collected using a 5-point Likert scale. Unlike the other dimensions, entrepreneurial intention was measured directly through six questions proposed by Liñan and Chen (2009). In this study, the authors used the theory of planned behavior to build and validate a survey of entrepreneurial intention. In the survey, the questions were closely related to the willingness of students to become entrepreneurs and create their own businesses. In this case, the answers were collected using a 5-point Likert scale.

## RESULTS

### *Measurement Model*

The PLS-SEM first evaluates the measurement model, which addresses the relationship between constructs and indicators. This first step allows for the assessment of the quality of the measurement instrument and, in turn, whether the model is adequate to represent the observations. In the context of the study, the measurement model only included first-order reflective constructs. Therefore, the evaluation of the measurement model included indicator reliability, internal consistency, convergent and discriminant validity (Hair et al., 2022). The reliability of the indicators consists in evaluating the external loads of each indicator. Outer loadings represent the relationship between indicators and their corresponding construct. A common rule of thumb is that standardized external loadings should be greater than 0.7. Table 2 shows the external loadings for all indicators in the measurement model. According to the results, only indicator ES4 recorded an external load lower than the threshold. However, it was decided to keep the indicator because removing it did not increase the convergent validity of the educational support construct (Hair et al., 2022).

Cronbach's alpha ( $\alpha$ ) and composite reliability (CR) were calculated to validate the internal consistency of each construct. Cronbach's alpha is a traditional technique for measuring internal consistency. However, the alpha criterion is sensitive to the number of indicators for each construct and generally tends to underestimate internal consistency. In this sense, Cronbach's alpha can be used as a conservative measure of internal consistency. In contrast, composite reliability is often considered

too liberal. Therefore, the true reliability of the construct is typically considered to lie between these two metrics (Hair et al., 2022). The criterion proposed by George and Mallery (2003) was used to interpret the results. More specifically, values greater than 0.9 indicate excellent reliability, values greater than 0.8 indicate good reliability, values greater than 0.7 indicate acceptable reliability, values greater than 0.6 indicate questionable reliability, and values less than 0.5 indicate unacceptable reliability. According to the results, the values of both indicators were found to be above 0.7, indicating that all constructs have acceptable reliability (Table 2).

Convergent validity assesses the degree to which indicators are positively correlated with alternative measures of the same construct. The average variance extracted (AVE) is the most popular technique for determining convergent validity in the PLS-SEM context. The AVE is calculated by summing the squared loadings divided by the number of indicators for a given construct. In particular, AVE values greater than 0.5 indicate that the construct explains more than half of the variance of its indicators. In contrast, AVE values less than 0.5 indicate that more variance remains in the error of the indicators than in the construct itself. According to Table 2, AVE values above the threshold ranged from 0.701 to 0.882. Therefore, the results allowed to verify the convergent validity of the measurement model.

**Table 2. Evaluation of reliability, internal consistency, and convergent validity of indicators**

| Construct/indicators        | Outer loadings | $\alpha$ | CR    | AVE   |
|-----------------------------|----------------|----------|-------|-------|
| Financial capital           |                | 0.883    | 0.929 | 0.813 |
| FC1                         | 0.948          |          |       |       |
| FC2                         | 0.934          |          |       |       |
| FC3                         | 0.818          |          |       |       |
| Social capital              |                | 0.867    | 0.937 | 0.881 |
| SC1                         | 0.954          |          |       |       |
| SC2                         | 0.924          |          |       |       |
| Emotional support           |                | 0.953    | 0.966 | 0.877 |
| ET1                         | 0.942          |          |       |       |
| ET2                         | 0.948          |          |       |       |
| ET3                         | 0.923          |          |       |       |
| ET4                         | 0.933          |          |       |       |
| Entrepreneurial role models |                | 0.933    | 0.957 | 0.882 |
| ER1                         | 0.933          |          |       |       |
| ER2                         | 0.930          |          |       |       |
| ER3                         | 0.955          |          |       |       |
| Educational support         |                | 0.918    | 0.933 | 0.701 |
| ES1                         | 0.850          |          |       |       |
| ES2                         | 0.918          |          |       |       |
| ES3                         | 0.842          |          |       |       |
| ES4                         | 0.656          |          |       |       |
| ES5                         | 0.858          |          |       |       |
| ES6                         | 0.876          |          |       |       |
| Concept development support |                | 0.942    | 0.956 | 0.846 |
| CD1                         | 0.934          |          |       |       |
| CD2                         | 0.955          |          |       |       |

|                              |       |       |       |       |
|------------------------------|-------|-------|-------|-------|
| CD3                          | 0.910 |       |       |       |
| CD4                          | 0.878 |       |       |       |
| Business development support |       | 0.833 | 0.895 | 0.740 |
| BD1                          | 0.926 |       |       |       |
| BD2                          | 0.833 |       |       |       |
| BD3                          | 0.818 |       |       |       |
| Entrepreneurial intention    |       | 0.955 | 0.964 | 0.819 |
| EI1                          | 0.815 |       |       |       |
| EI2                          | 0.913 |       |       |       |
| EI3                          | 0.948 |       |       |       |
| EI4                          | 0.925 |       |       |       |
| EI5                          | 0.874 |       |       |       |
| EI6                          | 0.946 |       |       |       |

Discriminant validity allows for verifying that each construct is relatively unique with respect to the other constructs included in the measurement model. In this context, the criteria of Fornell & Larcker (1981) and the Heterotrait-Monotrait Ratio (HTMT) were used to assess the discriminant validity of the measurement model. According to the first criterion, the square root of the AVE must exceed the correlation between one construct and the rest in order to test for discriminant validity. Regarding the second criterion, Henseler et al. (2015) argued that HTMT values below 0.85 allow for testing of discriminant validity. Table 3 shows the results for both criteria. The values on the diagonal correspond to the square root of the AVE, the values below the diagonal correspond to the correlation between each pair of constructs, and finally the HTMT values are above the diagonal. In this case, it can be observed that no correlation between constructs exceeds the square root of the AVE. In addition, the HTMT values are above the 0.85 threshold. Therefore, the results allowed to test the discriminant validity of the measurement model.

**Table 3. Evaluation of discriminant validity**

| Construct | FC     | SC     | ET     | ER     | ES     | CD     | BD    | EI    |
|-----------|--------|--------|--------|--------|--------|--------|-------|-------|
| FC        | 0.902  | 0.470  | 0.365  | 0.448  | 0.276  | 0.293  | 0.254 | 0.527 |
| SC        | 0.415  | 0.939  | 0.538  | 0.594  | 0.144  | 0.274  | 0.287 | 0.639 |
| ET        | 0.336  | 0.495  | 0.936  | 0.557  | 0.074  | 0.083  | 0.241 | 0.628 |
| ER        | 0.404  | 0.542  | 0.529  | 0.939  | 0.247  | 0.138  | 0.163 | 0.783 |
| ES        | 0.255  | 0.142  | 0.059  | 0.247  | 0.837  | 0.681  | 0.585 | 0.162 |
| CD        | -0.273 | -0.253 | -0.074 | -0.150 | -0.635 | 0.920  | 0.645 | 0.162 |
| BD        | 0.231  | 0.236  | 0.213  | 0.154  | 0.514  | -0.542 | 0.860 | 0.154 |
| EI        | 0.484  | 0.591  | 0.605  | 0.741  | 0.165  | -0.170 | 0.148 | 0.905 |

**Notes(s).** FC: Financial capital, SC: Social capital, ET: Emotional support, ER: Entrepreneurial role models, ES: Educational support, CD: Concept development support, BD: Business development support, EI: Entrepreneurial intention.

Family environment was represented as a second-order formative construct consisting of financial capital, social capital, emotional support, and entrepreneurial role models. For estimation purposes, a disjoint two-stage approach suitable for higher order constructs was chosen (Agarwal & Karahanna,



2000). In the first step, the latent variable scores are extracted from the measurement model. These scores were then used to measure the formative construct corresponding to family environment, while the remaining constructs were estimated using their corresponding indicators as in stage one. After estimating the second-order formative construct, the collinearity and significance of the indicators were evaluated. To assess the degree of collinearity, the variance inflation factor (VIF) was calculated. VIF values higher than 3 suggest critical collinearity issues (Hair et al., 2017). According to Table 4, all indicators achieved acceptable levels of collinearity. Finally, only the outer weight corresponding to social capital was reported as not significant. However, it was decided to keep this indicator since its outer loading was greater than 0.5 and significant. Therefore, the results showed that family environment can be represented as a second-order formative construct composed of financial capital, social capital, emotional support, and entrepreneurial role models.

**Table 4. Assessment of second-order formative construct (family environment)**

| Indicator                   | VIF   | Outer weights | p-value | 95% percentile - CI |
|-----------------------------|-------|---------------|---------|---------------------|
| Financial capital           | 1.289 | 0.187         | *       | [0.040;0.325]       |
| Social capital              | 1.627 | 0.198         | 0.054   | [0.001;0.408]       |
| Emotional support           | 1.530 | 0.267         | **      | [0.113;0.475]       |
| Entrepreneurial role models | 1.684 | 0.588         | ***     | [0.420;0.734]       |

Note(s). \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

### **Structural Model**

Once the reliability and validity of the measurement model was confirmed, the next step was to estimate the structural model. In this case, a bootstrapping procedure with 10000 subsamples was used to test each research hypothesis. When the structural model includes moderating variables, it is important to distinguish between the main effect and the simple effect. In particular, the main effect makes it possible to determine the relationship between two constructs, whereas the simple effect includes interaction effects that can lead to incorrect and misleading conclusions (Henseler & Fassott, 2010). In this sense, it was decided to estimate the main effect between family environment and entrepreneurial intention. According to Table 5, family environment has a positive and significant effect on entrepreneurial intention ( $\beta = 0.817$ ,  $t = 25.69$ ,  $p\text{-value} < 0.001$ , CI [0.719; 0.855]). Therefore, the results allowed to accept research hypothesis 1.

After addressing research hypothesis 1, the interaction effects corresponding to the moderating effect of educational support, concept development support, and business development support on the relationship between family environment and entrepreneurial intention were added to the structural model. In this case, the two-step approach was used to estimate the moderation effect (Chin et al., 2003). Thus, the first stage provides the latent variable scores, which are then multiplied and included as a single indicator representing the interaction effect in the second stage. Finally, the

results showed that the moderating effect of educational support ( $\beta=0.220$ ,  $t=2.810$ ,  $p\text{-value}<0.01$ , CI [0.127; 0.435]) and concept development support ( $\beta=0.197$ ,  $t=2.424$ ,  $p\text{-value}<0.01$ , CI [0.065; 0.417]) were significant. Therefore, the results validated research hypotheses H2a and H2c.

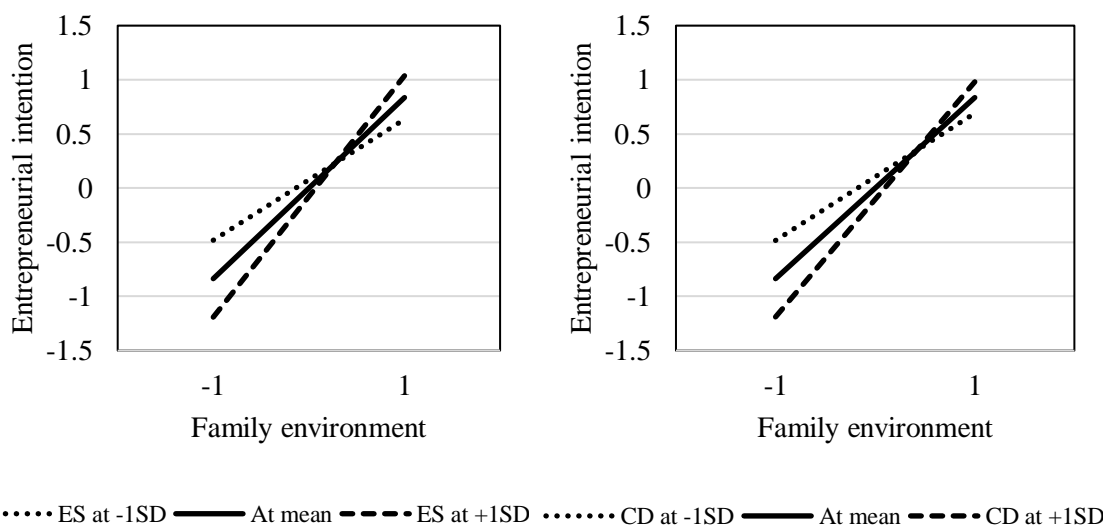
**Table 5. Main and interaction effects**

| Relationship | Path coefficient | t-Statistic | p-value | 95% percentile - CI |
|--------------|------------------|-------------|---------|---------------------|
| H1           | 0.817            | 25.690      | ***     | [0.719;0.855]       |
| H2a          | 0.220            | 2.810       | **      | [0.127;0.435]       |
| H2b          | 0.197            | 2.424       | **      | [0.065;0.417]       |
| H2c          | -0.052           | 0.591       | 0.555   | [-0.177;0.098]      |

*Note(s).* \* $p<0.05$ , \*\* $p<0.01$ , \*\*\* $p<0.001$ .

After testing the significance of the interaction effects, the next step was to determine the influence of each moderating variable. This is because the moderating effect can strengthen or even reverse the relationship between two constructs. In this context, the slope graphs of the results allow to deepen the previously reported results. Figure 2 shows the slope graph corresponding to the moderating effect of educational support and concept development support on the relationship between family environment (horizontal axis) and entrepreneurial intention (vertical axis), respectively. According to the figure, a high level of educational support is associated with a steeper slope compared to a low level of educational support. In other words, high educational support strengthens the relationship between family environment and entrepreneurial intention. The results also showed that the presence of concept development support strengthens the association between family environment and entrepreneurial intention.

**Figure 2. Slope graph – educational support (left), concept development support (right)**



## DISCUSSION

### *Theoretical Implications*

The family environment has often been portrayed from a one-dimensional approach by various authors (Chen et al., 2021; Nguyen et al., 2020). However, the present study identified four dimensions of family environment in the academic literature and empirically tested their validity. In particular, financial capital, emotional support, and entrepreneurial role models stood out as dimensions that characterize the family environment. These results imply that the representation of the family from these three dimensions allows to address the complexity and at the same time to obtain a more holistic picture of this environment. In contrast, social capital is not a significant dimension of the family environment. The results in the academic literature on the influence of family social capital on the entrepreneurial intention of university students are still mixed (Ip et al., 2018; Moussa and Kerkeni, 2021; Sahputri et al., 2023; Zhao et al., 2020). Therefore, the present study underscores the need to continue contributing to the empirical evidence on family social capital and its role on entrepreneurial intention among university students.

The results confirmed the positive effect of family environment on the entrepreneurial intention of students (Salami, 2019; Vasileiou et al., 2023). In addition to tangible resources, intangible aspects, such as the transmission of norms and values, are important family support for entrepreneurial activities (Garcia-Rodriguez et al., 2022). However, there is a need to continue to explore best practices in family environments that lead to increased intention to engage in entrepreneurial activities, as this is a key research topic for academics and practitioners. Furthermore, the relationship between family environment and entrepreneurial intention was strengthened by the high perception of support from the university environment. In turn, the study found that support for teaching and conceptual development were the most representative dimensions of the university environment. Thus, the study confirmed that the university is an environment that allows the student to take advantage of the opportunities provided by the family environment, resulting in a greater willingness to engage in entrepreneurial activity.

### *Practical implications*

The estimation results made it possible to identify the relevance of each dimension of the family environment. Thus, entrepreneurial role models emerged as the most representative predictor of family environment. In particular, exposure to successful entrepreneurs is one of the most important indicators of the family environment for fostering entrepreneurial intentions among university students. Several authors have highlighted the importance of role models to foster entrepreneurial activity (Kong et al., 2020). According to Ukil (2022), individuals can learn from their past experiences and role models in shaping the entrepreneurial journey. In addition, the author emphasized that this

relationship is critical in developing countries, where people who want to start a business face a number of challenges. On the other hand, the results revealed that emotional support has the second highest relationship with family environment. More specifically, support from parents, siblings, relatives and close friends is a characteristic of family environments that is associated with high levels of entrepreneurial intention, especially among university students. Third, financial capital was the last positive and significant dimension with respect to the family environment. In light of the results, debt and equity capital provided by family members is the most relevant characteristic of family environments that foster entrepreneurial activity. In this context, Dyer et al. (2014) emphasized that this family capital can be mobilized quickly, has minimal transaction costs, is difficult to imitate, and can be efficiently transferred between generations.

How can higher education institutions strengthen the role of the family environment on the entrepreneurial intention of university students? In light of the results, educational support and concept development support strengthened the role of the family environment on entrepreneurial intention. Regarding the first dimension, the results showed that project work focused on entrepreneurship corresponds to the indicator that best represents the educational support dimension. Several authors pointed out that project work is an effective alternative for the development of entrepreneurial intentions among university students (Chien-Chi et al., 2020; Fernández de Caleyá et al., 2023; Ribeiro et al., 2018). Blesia et al. (2021) presented evidence on the outcomes of an entrepreneurship project in which second-year university students participated in a project that provided them with intensive training, seed capital, apprenticeships, monitoring, and supervision. The authors found that the project helped change the way students think about entrepreneurship. In particular, the project strengthened the self-confidence of the students to become entrepreneurs. Concept development support corresponds to the second dimension of the university environment that reinforces the effect of the family environment on entrepreneurial intention. Motivation and awareness of entrepreneurship were the two most relevant indicators of the support dimension of policy development. Similarly, Tomy & Pardede (2020) showed that the role of universities is crucial in strengthening the motivation and ability of university students to engage in entrepreneurial activities. The authors recommended that university entrepreneurship programs promote self-efficacy rather than just the evaluation of entrepreneurial ideas.

The results allowed the design of a two-step strategy to increase entrepreneurial intention, focusing on university students with a strong entrepreneurial family environment. The first step corresponded to the identification of individuals with high levels of entrepreneurial family environment based on the three significant dimensions of the study (i.e., financial capital, emotional support, and entrepreneurial role models). These dimensions were used to design a questionnaire

about the family environment. In addition to the instrument used in this article, several authors proposed more comprehensive questionnaires for the previously identified dimensions (Moussa & Kerkeni 2021; Neneh and Welsh., 2022; Turulja et al., 2020). In this way, the use of the questionnaire allowed to identify those students with a strong family environment. In the second step, high-scoring students are enrolled in a university entrepreneurship program that focuses on educational support and concept development. Based on the results, one would expect to observe higher performance in terms of entrepreneurial activity among students enrolled in the program compared to those students who registered low family environment scores.

## **CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH**

The study examined the role of university and family environment on entrepreneurial intention. The results advanced the academic literature on the topic and provided insights for practitioners. First, the results confirmed the influence of family environment on entrepreneurial intention among university students. In particular, entrepreneurial role models were the most relevant dimension of the family environment for entrepreneurial activity. On the other hand, the study found that the university setting represents an important contribution in the entrepreneurial process, since it allows strengthening the role of the family environment on the entrepreneurial intention. These findings provide useful information for university managers and allowed the design of a two-step strategy to strengthen the entrepreneurial intention of university students with a strong entrepreneurial family background. This strategy makes it possible to identify those students with a strong family environment with the aim of addressing specific cognitive needs that will allow them to increase their intention to engage in entrepreneurial activities.

### ***Limitations***

The shortcomings of the study provide an opportunity to improve future research on this topic. A limitation of the study is the number of observations used in the statistical analysis. Although the sample size meets the minimum number of observations required for statistical analysis, the generalization of the results to the population remains a limitation of the study. Therefore, it is necessary to further test the relationships proposed in this study in order to provide greater robustness to the research model. On the other hand, family and university are complex environments composed of dimensions that influence the behavior of individuals. In this context, the academic literature identified several constructs in each environment that were not included in the study. For example, Kusumojanto et al. (2021) proposed family education as a relevant dimension that leads to entrepreneurial intention. This is because the background of parents influences the outlook on life and

patterns that will determine the attitudes and behavior of children throughout life (Gronhoj & Thogersen, 2017). Likewise, da Rocha et al. (2022) addressed entrepreneurial characteristic development support as a dimension of the university environment. According to the authors, this dimension influences entrepreneurial intention by providing the necessary skills and abilities to tackle various challenges.

### ***Recommendations for Further Research***

Future research may use behavioral interventions to empirically assess the two-step strategy. In particular, it is recommended to use a control group and an intervention group to compare the levels of entrepreneurial intention between the two groups. On the other hand, green entrepreneurship represents an important alternative to mitigate environmental issues and create new employment opportunities, which could further promote sustainable and economic development (Dean & McMullen, 2007). Green entrepreneurs pay attention to environmental issues, use innovative thinking to identify business opportunities, and apply flexible, creative approaches to address environmental challenges (Cai et al., 2022). In this way, future research can consider green entrepreneurial intention to analyze its relationship with family and university environments. Finally, several authors have shown that there are differences in the influence of the environment on individuals' attitudes and behaviors related to entrepreneurship (Molino et al., 2018; Villanueva-Flores et al., 2021). Future research should address the differences between men and women concerning family and university support and their effect on entrepreneurial intention. In turn, this information would allow the design of gender-specific strategies to strengthen the effect of the family environment on entrepreneurial intention among university students.

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## APPENDIX

### *Entrepreneurial intention EI (5-point Likert Scale) – Liñan and Chen (2009)*

1. I am ready to do anything to be an entrepreneur.
2. My professional goal is to become an entrepreneur.
3. I will make every effort to start and run my own business.
4. I am determined to create a business in the future.
5. I have very seriously thought of starting a business.
6. I have the firm intention to start a business someday.

### *Financial capital FC (7-point Likert scale) - Manolova et al. (2019)*

1. My parents/family provide me with debt capital.
2. My parents/family provide me with equity capital.
3. The capital provided by my parents/family has favorable and flexible conditions.

### *Social capital SC (7-point Likert scale) – Manolova et al. (2019)*

1. My parents/family provide me with contacts to people who could help me with pursuing an entrepreneurial career.
2. My parents/family introduce me to business networks, providing contacts to potential business partners and/or customers.

### *Emotional support ES (7-point Likert scale) – Abebe (2012)*

How would the following people feel about if you were to start a business?

1. Parents
2. Siblings
3. Relatives
4. Close friends

### *Entrepreneurial role model ER (5-point Likert scale) – Yang (2019)*

1. Whenever I meet successful entrepreneurs, I feel keen to start my own business.
2. I desire to follow the same career path of successful entrepreneurs.
3. Many successful start-up cases arise from my passion towards being an entrepreneur.

### *Educational support DS (5-point Likert scale) – Kraaijenbrink et al. (2010)*

1. My university offers elective courses on entrepreneurship.
2. My university offers project works focused on entrepreneurship.
3. My university offers internship focused on entrepreneurship.
4. My university offers a bachelor's or master's degree on entrepreneurship.
5. My university gives conferences/workshops on entrepreneurship.

6. My university brings entrepreneurial students into contact with each other.

*Concept development support CD (5-point Likert scale) – Kraaijenbrink et al. (2010)*

1. My university raises awareness of entrepreneurship as a possible career choice.
2. My university motivates students to start a new business.
3. My university provides students with ideas to start new businesses.
4. My university provides students with the necessary knowledge to start new businesses.

*Business development support BD (5-point Likert scale) – Kraaijenbrink et al. (2010)*

1. My university provides students with the financial means to start a new business.
2. My university uses its reputation to support students who start a new business.
3. My university serves as a lead customer of students who start a new business.

**TITLE: "EXPLORING THE TECHNOLOGICAL TRANSFORMATION OF  
HALAL CERTIFICATION: ENHANCING TRANSPARENCY,  
RELIABILITY, AND SUSTAINABILITY IN THE INDUSTRY"**

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**ABSTRACT**

This study explores the intersection of technology and Halal certification in the muslim industry, focusing on the opportunities and challenges presented by the integration of innovative solutions such as blockchain and the Internet of Things (IoT). The goal is to research innovative tools to improve the dissemination of halal products. Drawing insights from both professional perspectives and academic literature, highlights the growing importance of technology in ensuring the authenticity and compliance of Halal products on a global scale. Professionals emphasize the practical implications of technology adoption, advocating for transparency, traceability, and partnerships to drive economic growth within the industry. In contrast, academic sources delve into the theoretical foundations of technology integration, discussing the impact of emerging technologies, cross-cultural perspectives, sustainability considerations, and consumer behavior on Halal certification processes. To understand gaps in the field and future challenges, the following research compared studies from the professions and literature to understand points of contact and points of disagreement. Synthesizing these perspectives, underscores the need for future studies to explore emerging technologies, cross-cultural implications, sustainability considerations, and consumer behavior to advance our understanding of technology integration in Halal certification and its potential to enhance transparency, reliability, and sustainability in the Halal industry.

*Keywords: Halal, Halal Certification, Halal Food and Beverage, Halal Market, Technology, Artificial Intelligence, Blockchain*

**INTRODUCTION**

Technological development is also revolutionizing the halal industry market. The market for Islamic products is expanding rapidly, which must observe the rules dictated by Shariah (Yuspin, 2023). The term 'halal' means lawful and refers to all those products and services that comply with Islamic law (Sumarliah, 2021). A product to be called 'halal' must be certified by a specific body, which is

responsible for checking that the entire production chain complies with Islamic law (Sumarliah, 2021). Halal certification is essential for a Muslim consumer because it turns out to be a safety tool for observing Islamic principles (Yuspin, 2023). The integration of innovative technologies such as blockchain, Internet of Things (IoT), and artificial intelligence (AI) has revolutionized traditional Halal certification processes, offering new opportunities to enhance transparency, reliability, and sustainability throughout the Halal supply chain (Herren, 2001). This paradigm shift underscores the critical importance of leveraging technology to meet the evolving needs of consumers, regulatory bodies, and industry stakeholders in ensuring the authenticity and compliance of Halal products (Cole et al., 2022). The purpose of our research is to understand how technology can help create a single certification tool to standardize the authenticity of halal products (Papadopoulos, 2017). The goal is to provide a single tool for both producers and consumers, where the latter can understand all the necessary information before making a purchase and suppliers can enter information about the origin of the products and the processes performed (Sari N., 2023). To understand how technology can provide innovative tools for halal certification, the studies of professionals on the subject and academic studies were compared. Professionals in the field emphasize the practical implications of technology adoption, highlighting the role of blockchain in providing immutable records of Halal transactions, IoT in enabling real-time monitoring of supply chain processes, and AI in streamlining certification procedures (Cole et al., 2022). These technological advancements not only enhance the efficiency and accuracy of Halal certification but also address key challenges such as traceability, counterfeiting, and sustainability within the industry (Fosso W., 2016). On the academic front, researchers delve into the theoretical underpinnings of technology integration in Halal certification, exploring concepts such as cross-cultural perspectives, sustainability considerations, and consumer behavior (Misra, 2018). Theoretical frameworks provide insights into the impact of emerging technologies on Halal certification practices, the implications of technology adoption in diverse cultural contexts, and the potential of technology to promote environmentally sustainable practices in the Halal industry (Casey et Wong, 2017). By synthesizing these perspectives, a comprehensive understanding of the opportunities and challenges of technology integration in Halal certification emerges, paving the way for future studies to explore innovative solutions that enhance trust, transparency, and sustainability in the global Halal market (Sari N., 2023). The research was divided into the following paragraphs: in the first part we find a review of the literature, followed by the definition of the methodology, the collection of data, the analysis of the results and the final discussion. As the Halal industry continues to expand and evolve in response to changing consumer preferences and regulatory requirements, the integration of technology stands poised to reshape the landscape of Halal certification practices (Ab Rashid, 2019). By embracing digital innovations,



industry stakeholders can not only meet the growing demand for authentic Halal products but also foster a culture of transparency, integrity, and innovation that resonates with consumers worldwide (Misra, 2018). Our research question is: How can new technologies support the development of products in the halal market from a sustainable perspective? Section 2 delves into the literature of the relevant field. Section 3 outlines the methodology used in this research. In section 4 we find the results obtained, comparing the data obtained from the analysis of the practitioners' study with the results obtained from the literature. Finally, in sections 5 and 6 we find the discussion and conclusion.

## LITERATURE REVIEW

The growing demand for Halal products has focused on the technologies used to ensure Halal authenticity and compliance throughout the supply chain (Ab Rashid, 2019). In the Muslim world, halal practices are the basis of daily principles and activities (Ab Rashid, 2019). When it comes to food and drink (Poniman, 2015), Muslims follow the guidelines of Sharia law, which mandates the consumption of halal (permissible) foods. Similarly, this principle is also applied to clothing and other aspects of life (Sumarliah, 2021). "Halal," an Arabic term signifying "legal" or "lawful," is a sacred duty that must be observed by every Muslim irrespective of their Islamic teachings or groups (Sumarliah, 2021). However, ensuring compliance with Halal principles has become increasingly complex due to the globalisation of food supply chains and industry practices. As pointed out by Abdullah et al. (2019) Halal certification is essential to instill confidence in Muslim consumers concerning the provenance and quality of products (Ismail, 2019). Halal certification not only ensures religious compliance of food products, but also plays a key role in opening and expanding global markets for companies in the industry. Obtaining the following certification enables companies to diversify their product offerings and specifically address the needs of Muslim consumers in different global contexts (Ismail, 2019). Allowing companies to develop a strategic approach and expand their presence in international markets, overcoming cultural and religious barriers (Miles et al., 2014). Firms have adopted blockchain technology because of competitive pressure (Ratih Hendayani, Yudi Fernando, 2022). A study conducted by Rahman et al. (2018) highlighted the importance of Halal certification bodies in ensuring the trust of Muslim consumers. There is no single international body responsible for halal certification (R. A. Rahman, 2018). However, each organisation follows the general guidelines set by Sharia law. The application of these principles may differ depending on the geographical area, country-specific legislation, and cultural norms (R. A. Rahman, 2018). The use of new technologies in the Halal product sector is rapidly emerging as a key factor in improving transparency, traceability, and compliance with Halal standards, thereby meeting the growing needs of consumers (El Beltagi, 2021). In particular, the main used technologies are blockchain and the

Internet of Things (IoT) (El Beltagi, 2021). Implementing blockchain technology in Halal product traceability provides a secure and transparent system to monitor the entire supply chain, enabling consumers to access detailed information about the origin and production of Halal products (El Beltagi, 2021). The decentralised and immutable nature of blockchain reduces the risk of fraud and counterfeiting. The use of this technology can reduce costs for companies and improve operational efficiency, eliminate the need for intermediaries, and reduce verification and transaction times along the supply chain, leading to significant savings in time and money (El Beltagi, 2021). Some scholars believe that the adoption of blockchain technology positively influences the supply chain of halal products, because it increases consumer trust (Ratih Hendayani, Yudi Fernando, 2022). Despite blockchain technology's advantages in the context of Halal products, some limitations and challenges may affect its complete application in this area (Uddin S., 2020). For example, the use of this technology requires the development of advanced skills and resources that small businesses often do not possess; in addition, there is not yet complete standardisation for the use of blockchain in halal products, and as a result, there may be limitations in sharing information throughout the chain (Uddin S., 2020). In contrast, the Internet of Things is used more for warehouse management, storing halal products, and interacting with consumers (Sari N., 2023). Instead, for consumer interaction, IoT is implemented in mobile devices and smart labels, providing real-time product information (M. A. Rahman et al., 2021). Innovative technology solutions offer numerous benefits beyond mere compliance with Halal standards, promoting consumer confidence and supporting the sustainable growth of the Halal industry.

## **METHODOLOGY**

The section aims to describe the rigorous qualitative methodology applied to the presented study to meet the purposes of professional source-based research. Content analysis (CA) represents a research technique for conducting replicable and valid inferences from different meaningful materials to usage content (Krippendorff, 2018). Although scholars initially used it only for text, nowadays, it is applied to analysing different media sources, such as audio and video content (Krippendorff, 2018). Therefore, this method allows for research using multiple sources and computational tools to perform scientific comparisons. The literature presents CA with three different declinations: conventional, direct and summative (Hsieh H.F. & Shannon, 2005). Our study used a direct declination. The possibility of using computerized data analysis tools has enabled a critical evolution of the method. CA is widely implemented in different research streams to highlight specific literary and thematic trends (Amini M., Bienstock C.C., Narcum J.A., 2018). Conventional CA means that coding categories are derived directly by researchers from the text. In the direct approach, researchers use a relevant theory or

findings to guide the initial coding task. Finally, in summative CA, the keywords investigated are counted and compared based on the interpretation of the underlying context. Therefore, based on the review of relevant literature on Halal and technology (Ab Rashid, 2019), our paper implements a direct CA investigation. Therefore, considering the previous elements, the content and thematic analysis can adequately meet the purpose of our research.

## **DATA COLLECTION**

To answer our research question, we utilized two databases. For academic research, we employed the widely adopted Scopus database that analyzes academic articles. For the analysis of expert studies, we utilized the Nexis Uni database (Kim N. et al, 2015) which considers news containing company information as public information. To conduct content analysis, we used Leximancer software (Massaro et al., 2018) which automatically identifies key concepts and reference citations associated with a catalytic theme in the text. The query used for the scientific search using Scopus was as follows: "halal" OR "Islamic\*" OR "Halal certification" OR "Halal food" OR "Halal Food and Beverage" OR "Halal Cosmetic\*" OR "Halal market\*" AND "technology\*" OR "Artificial intelligence" OR "Blockchain". In order to collect practitioner papers, through the Nexis Uni database, it was not possible to use the exact word string used in the Scopus database because it returned a high number of results. Therefore, we decided to limit the survey to only those sources where the term "Halal" and "Technology" were within five terms of each other to ensure better relevance. The time period analyzed was from 2020 to 2023. There were 351 results obtained from the Scopus database. The results obtained from the Nexis Uni database amounted to 300 results.

## **RESULTS**

### **PRACTITIONERS RESULTS**

This section aims to explore the themes discussed by practitioners when investigating companies' research on the use of new technologies to produce halal products. We have identified key concepts discussed in practitioner sources and examined how they relate to each other. As shown in Figure 1, the main topic related to halal products is "Food." The first term - "Food", is linked to various concepts, such as 'halal', 'production', 'technology', 'economic', 'digital', and 'blockchain'. Within the first theme, practitioners seek out technologies that can certify the authenticity of halal food products. The second topic concerns the definition of 'Halal,' which Islamic products must observe Sharia principles. Over the last few years, the demand for halal-certified products has extended beyond the Muslim community and is gaining increasing acceptance among non-Muslim consumers who relate halal with

ethical consumerism and high-quality products. Therefore, the increasing demand for halal products worldwide is driving the need for halal logistics. The third, fourth, and fifth topics refer to the challenges that digital innovation brings to the halal industry, and related economic growth. In reference to the terms 'blockchain' and 'technologies,' blockchain is the most popular technology used in the Islamic industry. Professionals are currently occupied in solving two major issues.

**Figure 1:** Key themes and their relationship in practitioners' sources



The first one pertains to finding tools that conform to the principles of Sharia while also considering environmental protection and waste reduction. The second issue relates to ensuring transparency and dependability of the tools used at every stage of the supply chain. Consequently, the 'halal' industry is looking to incorporate new technologies, specifically blockchain, to enhance the dependability of these products and aid in the economic expansion of the 'halal' market. Infact, Dr Habib said: *“There is a huge gap between the Muslim world – consisting of mosly underdeveloped countries – and blockchain innovations. Shariah Expert is bridging this gap throught halal compliance advisory, so that those project, on the one hand, can find new markets; and on the other hand, Muslim can benefit from without compromising their faith-based values.”* Indeed, Neha Anna Thomas - Senior Economist at Frost & Sullivan, has written: *“Transparency and traceability along the halal product value chain are crucial. Due to this, governments should encourage the adoption of advanced technologies such as blockchain and the Internet of Things (IoT) when developing halal economy masterplans, while businesses can partner with tech start-ups”.* Currently, implementing innovative tools is an opportunity for all market sectors. To support this, Fook Yen Chong – ADB’s Senior Social Sector Specialist for Southeast Asia, said: *“Limited tecnological mastery in*

*the industry and a lack of capacity to absorb new technologies can reduce productivity and hinder economic growth*". It sounds like the main objective is to boost the Halal production sector by forming partnerships with key local and international players. The focus seems to be on supporting small and medium-sized enterprises in this sector. In support of what has been said, from the data analyzed it emerged that Public Investment Fund PIF announced the launch of halal Products Development Company (HPDC or Company) which will invest in localizing the Halal production industry in Saudi Arabia by increasing the efficiency of the ecosystem locally, while supporting the development of knowledge and innovation in this key industry with plans to export to different markets globally. Building on Saudi Arabia's position in the Islamic world HPDC will aim to unify global efforts and promote Saudi Arabia as a global Halal hub.

**Table 1:** summarises the key topics, the companies discussed and the text sources used.

| Topics     | Examples                                     | Original quotes  |
|------------|--|--|
| Halal      | Sherry James<br>Corporate Sale<br>Specialist | Over the last few years, the demand for halal-certified products has extended beyond the Muslim community and is gaining increasing acceptance among non Muslim consumers who relate halal with ethical consumerism and high-quality products. Therefore, the increasing demand for halal products worldwide is driving the need for halal logistics. Halal logistics providers are rigorously ensuring that the people involved in the supply chain understand the technical requirements and regulatory aspects to deliver halal products to the markets safely. The growing issues over the absence of proper regulatory framework to assure the authenticity of these products might be a restraint to the commercial production of halal food (Sherry James Corporate Sale Specialist, 2022). |
| Economic   | Fook Yen Chong                               | Limited technological mastery in the industry and a lack of capacity to absorb new technologies can reduce productivity and hinder economic growth. The project will also strengthen public-private partnerships, increase the competitiveness and productivity of the workforce as new technologies are developed and adopted, and strengthen entrepreneurship and job creation for young people. The significant growth in Muslim populations across the globe is expected to offer immense opportunities to Halal Food market. In addition, the rapidly accelerating economic power of Islamic countries is anticipated to largely influence them to spend additional money on the branded products. (Fook Yen Chong, 2022).  |
| Technology | Neha Anna<br>Thomas                          | Transparency and traceability along the halal product value chain are crucial. Due to this, governments should encourage the adoption of advanced technologies such as blockchain and the Internet of Things (IoT) when developing halal economy masterplans, while businesses can partner with tech start-ups." To tap into growth opportunities of the halal market: Global governments must seek to unify halal standards and accreditation processes to help reduce the number of certification requirements and promote halal commerce (Neha Anna Thomas, 2020).  |
|            | Dr Habib                                     | There is a huge gap between the Muslim world consisting of mostly underdeveloped countries and blockchain innovations and crypto verse. Shariah Experts is bridging this gap through   |

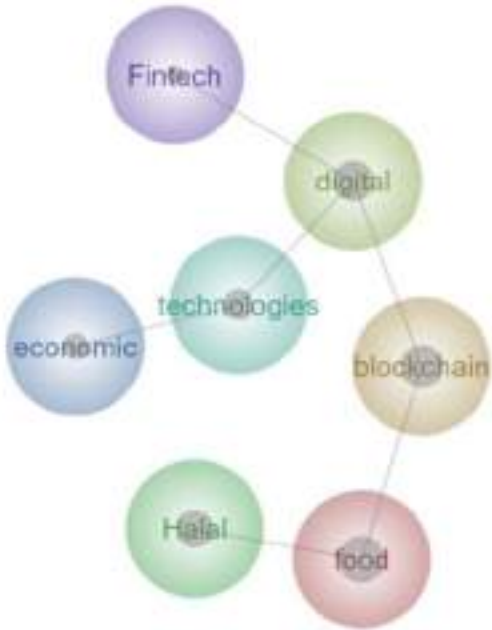
halal compliance advisory, so that those projects, on the one hand, can find new markets; and on the other hand, Muslims can benefit from such projects without compromising their faith-based values. The complete transparency of blockchain also means that anybody can easily cross-check a certificate with Shariah Experts public key to verify beyond a shadow of a doubt that it was this specific Shariah advisory firm that minted and issued the certificate. (Dr Habib, 2022).

## ACADEMIC SOURCES

The analysis of scientific journals obtained from the Scopus database show results in line with professional sources. In the literature, the authors have questioned issues related to improving the certification of halal products through the use of new technologies. As shown in Figure 2, key are related to macroconcepts such as “food”, “business”, “blockchain”, “halal”, “digital”, “innovation”, “finthech”, “technologies”, “Shriah”, “technology”. One element discussed in the literature refers to the concept of traceability of halal products. The market for halal products is growing, and product traceability is a key element. It depends on a number of factors, such as legislation, which may differ depending on the country observed. For example, the International Organization for Standardization (ISO) defines traceability as “the ability to follow the movement of a product through certain stages of production, processing, and distribution”. According to Olsen and Borit, traceability is “the ability to access any or all information relating to what is being considered, throughout its life cycle, using recorded identification”. The implementation of traceability systems has been remarkable in the industry to provide brand-protection guarantees from counterfeiting and ensure that the deliveries are safe and secure. This traceability system requires all supply chain participants to know who will supply to the company and to whom the product will be delivered so that every participant can access information about upstream and downstream products. Over time this process is being improved by implementing the use of new technologies. Literature indicates that recent digital innovations, such as blockchain, have great potential to change today’s business mechanism and an entire economy. The results reveal that blockchain-enabled technologies improve transparency and reliability which will only be realized when there is a supportive law framework. With blockchain technology, halal certification bodies can improve the trust and authenticity of halal brands (Tiemán and Williams, 2019). This is because the blockchain stores copies of all transactions permanently, which cannot be modified (Khan et al., 2020; Tian, 2017). In other words, the blockchain sees transactions in real time (Calvão and Archer, 2021) and all product information is stored in a shared and transparent system, establishing a trusted source of information for all (Galvez et al., 2018; Mao et al., 2019). As suggested by (Tiemán and Darun, 2017), with accurate data, supply chain players’ performances can be assessed accurately. Additionally, the blockchain can improve efficiency, which lowers operational costs (Lim,

2021). This is accomplished by eliminating the need for multiple verifications, as well as labor/administrative and physical costs (Mansfield-Devine, 2017). The digital documentation and high-speed data flow make the supply chain more efficient (Barnard, 2017). A distinctive feature that has emerged from the literature compared to professionals is the use of technology in the world of finance. Islamic Fintech, recently termed as i-FinTech (Chong, 2021), is a newly devised term, and researchers found no deviation from Fintech, provided that Fintech technologies were adopted following Shariah (Islamic Law) principles (Usman et al., Moreover, Alaa and Mirakhor (2017) asserted that Fintech is more connected to the spirit of Sharia as it eliminates two major risks, uneven maturity and leverage. Since 2010, the Islamic Finance Industry has grown rapidly, reflecting the evolution of the vast global Fintech Ecosystem with the aim of designing Islamic-faith-based products and services (Yuspin, 2023). Both practitioners and academics acknowledge the potential of new technologies to enhance the appeal of the halal products market. To produce specific products that are shariah-compliant, it's vital for practitioners to closely collaborate with engineers. The summary of the academic findings is shown in Table 2.

Figure 2: Key themes and their relationship in academics' sources



**Table 2:** summarises the key topics, the companies discussed and the text sources used.

| Topics                | Examples                | Original quotes  |
|-----------------------|-------------------------|--|
| Technology Innovation | Hoque & Salvatore, Liu, | Technology is a key factor in business success in this era, especially for the Islamic banking sector, which was established in an era of technological innovation. According to some empirical findings, there are some arguments concerning the significance of technology investment for banking performance, as indicated by a higher rate of return (Hoque & Liu, 2021; Salvatore, 2005).   |
| Digital Blockchain    | Sheth & Subramanian     | The blockchain is characteristic of end-to-end transactions where it has data distribution and it functions as automatic gatekeeper access to data, especially when using the smart contract method. The smart contract that is attached to the zakat transaction will be able to guarantee effectiveness, transparency and trust in zakat transactions and as a result, will lead to an increase in the total zakat collection at the state and country level (Sheth & Subramanian, 2020).  |
| Food                  | Ilyas Masudin et al.    | The demand for food, beverages, and cosmetics is growing, but consumers are also more careful about the halalness of products. The role of cosmetics for women is important as they can affect their daily appearance. On the other hand, halal food production requires a very scrupulous understanding throughout the supply chain, especially if a product has a complex set of ingredients and processing aids. For an unsullied halal food supply, chain integrity and monitoring are necessary to apply to each partner in the supply chain, from suppliers to end-users, so that users can be satisfied with the authenticity of the halal products. Therefore, a traceability system is necessary to ensure that the handling process of halal food conforms with Islamic Sharia (Ilyas Masudin et al., 2022). |

## DISCUSSION

The analysis of the challenges related to technological integration in Halal certification highlights both similarities and differences between the opinions of professionals and those of the academic literature. Industry professionals highlight the practical applications of technologies such as blockchain and IoT to increase the reliability of Halal products and stimulate economic growth in the sector. They emphasize the importance of transparency and traceability in the Halal supply chain, arguing that the adoption of advanced technologies is essential to respond to consumer demands and regulatory requirements. Furthermore, professionals highlight the need for collaborations with technology start-ups and the development of local and international partnerships to reinvigorate the sector. On the other hand, academic literature focuses on the theoretical basis of technological integration in Halal certification (Tan et al., 2018). Scholars discuss the benefits of blockchain in improving transparency and trustworthiness, highlighting the crucial role of supporting legal frameworks to realize these benefits (Tan et al., 2018). They also analyze the concept of traceability of Halal products and the importance of accurate data to evaluate supply chain performance (Tan et al., 2018). Academic sources also examine the emergence of Islamic fintech and its alignment with Sharia principles, showing how the technology can make Halal products more attractive in the market (Yuspin, 2023). Although both



practitioners and academics recognize the importance of technology in advancing Halal certification, their perspectives differ. Professionals focus on practical applications and industry trends, highlighting the need for technological innovations to meet consumer needs and stimulate economic growth. In contrast, academic sources delve into the theoretical foundations of technology integration, exploring concepts such as traceability, transparency, and the intersection of technology with Islamic principles (Cole et al., 2022). By combining the insights of practitioners and academics, a comprehensive view of the challenges and opportunities in technology integration for Halal certification emerges. Collaboration between industry professionals and academic researchers could lead to innovative solutions that not only comply with regulatory requirements, but also increase consumer confidence and promote sustainable growth in the Halal sector.

## CONCLUSION

The convergence of technology and Halal certification presents a transformative opportunity for companies in the halal industry to meet the escalating demand for authentic Halal products on a global scale (Sumarliah, 2021). By embracing innovative solutions such as blockchain and the Internet of Things (IoT), businesses can elevate transparency, ensure food safety, and enhance operational efficiency throughout the Halal supply chain (M. A. Rahman et al., 2021). These technological advancements not only facilitate adherence to Halal standards but also cultivate consumer trust and bolster sustainable growth within the Halal sector (Khan et al., 2018). As the market for Halal goods extends beyond the Muslim community, organizations that prioritize Halal certification and technological integration are poised to capitalize on this burgeoning trend and cater to the diverse needs of an expanding consumer base. The literature underscores the critical role of technology in advancing Halal certification practices and underscores the importance of traceability and authenticity in Halal products (Cole et al., 2022). While blockchain technology offers significant benefits in enhancing transparency and reliability in the Halal industry, challenges such as skill development and standardization remain (Tan et al., 2018). The thematic and content analysis employed in this study reveals the multifaceted impact of technology on Halal certification and emphasizes the need for continuous innovation to meet evolving consumer expectations. Furthermore, insights from practitioners highlight the growing significance of incorporating new technologies, particularly blockchain, to fortify the dependability of Halal products and drive economic growth within the industry. By leveraging cutting-edge technologies, companies can navigate the complexities of the global market, instill consumer confidence, and propel the Halal industry towards a future defined by transparency, sustainability, and innovation. Future studies in the realm of technology integration for Halal certification could explore several intriguing scenarios to deepen our understanding of this

evolving field. **Impact of Emerging Technologies:** Investigating the potential impact of emerging technologies such as artificial intelligence (AI) and machine learning on Halal certification processes could provide valuable insights into enhancing efficiency and accuracy in certification procedures. **Cross-Cultural Perspectives:** Exploring the cross-cultural implications of technology integration in Halal certification, particularly in regions with diverse regulatory frameworks and consumer preferences, could shed light on the challenges and opportunities of implementing standardized certification practices. **Sustainability and Environmental Considerations:** Examining how technology integration in Halal certification can contribute to sustainability goals, waste reduction, and environmental protection within the Halal industry would be a pertinent area of study, aligning with the increasing focus on ethical and eco-friendly practices. By exploring these future study scenarios, researchers can further advance our knowledge of the intersection between technology and Halal certification, paving the way for innovative solutions that enhance transparency, reliability, and sustainability in the global Halal industry.

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# FROM CLASSROOM TO WORKPLACE: ASSESSING EMPLOYMENT OUTCOMES FOR GRADUATES WITH ICT AND DIGITAL SKILLS FROM EUROPEAN UNIVERSITIES

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## ABSTRACT

**Purpose-** This study aims to examine how individuals' ICT and digital skills, along with the demand for ICT-knowledgeable candidates in the labour market, predict employment in positions requiring ICT skills.

**Methodology-** The study uses a multiple linear stepwise regression. The data is collected from publicly available sources, such as Eurostat (2024), the official online statistical platform of the European Union (EU).

**Findings -** The findings suggest that digital skills and the demand for ICT-skilled graduates in the labour market positively influence employment rates in positions requiring ICT skills. Conversely, graduates' possession of ICT skills has a negative impact on employment.

**Implications -** This study underscores the importance of collaboration among policymakers, higher education institutions, and industry partners to ensure alignment between the demand and supply of digital skills among tertiary education graduates. By addressing this alignment, stakeholders can enhance graduates' employability and better meet industry needs. These findings contribute significantly to the ongoing dialogue surrounding improving higher education to foster graduates' readiness for the workforce.

*Keywords: Please provide up to Keywords: Digital skills, Tertiary education graduates, Employability, stepwise regression, EU27*

## INTRODUCTION

Technological advancements have rapidly transformed industries in the past 2 decades (Alenezi et al., 2023; Ikhtiyorovna, 2023). The advent of technologies such as artificial intelligence (AI), the Internet of Things (IoT), augmented reality (AR), and virtual reality (VR) has led to a significant shift in industries and thus impacting Higher education. This transformation has created the urgency to equip

graduates with digital skills to fill the needs of the labour market. Aligning with the current need, higher education institutions are crucial in preparing graduates with the digital competencies required by today's competitive job market (Chemli et al., 2023; Jiang et al., 2023; Zhang et al., 2023). Digital skills encompass various abilities, including information literacy, digital communication, and proficient use of various technologies. As technology permeates every aspect of industries, graduates must possess the requisite digital acumen to remain adaptable and competitive. Extensive research consistently demonstrates a positive correlation between digital competencies and employability across various sectors (Aljohani et al., 2022; Avram et al., 2019). Individuals with advanced digital skills not only enjoy better job prospects but also demonstrate greater adaptability to technological shifts. Specific skills such as programming and data analysis are particularly required, reflecting the evolving nature of job roles in the digital era.

Despite the growing demand for digital skills, a gap persists between graduates' skill sets and employers' requirements ((Alhloul & Kiss, 2022; Galve-Górriz & Gargallo Castel, 2010). This gap underlines the importance of targeted reviews by HEIs to bridge the digital skills divide and ensure graduates are well-prepared for employment.

Moreover, policymakers are crucial in shaping educational policies prioritising digital literacy and skills development. By investing in digital education initiatives and fostering collaboration between Higher Education Institutions (HEI) and industries, policymakers can empower graduates with the relevant digital skills needed to succeed in today's job market (Camilleri, 2020; Chemli et al., 2023; OECD 2017).

In light of these considerations, this study investigates the impact of individual ICT and digital skills and labour market demand for digital talent on the employment outcomes of graduates from European higher education institutions. By examining the intersection of technology, education, and employability, this research seeks to provide valuable insights into the factors influencing employment outcomes in the digital age.

## **LITERATURE REVIEW**

### *Tertiary Education and Digital Skills*

Several studies have demonstrated the gap between the current skills of employees and the future skills required by the labour market and destination management organisations (Baum, 2018; Carlisle et al., 2023), some of which focused specifically on digital skill mismatch (Chemli et al., 2023). Digital skills encompass a broad range of competencies, including information literacy, digital communication, and proficiency in utilising various technologies.

As artificial intelligence (AI), internet of things (IoT), augmented reality (AR), and virtual reality (VR) increasingly permeate various industries, including tourism and hospitality, the demand for tertiary graduates equipped with relevant digital skills has surged. This shift underscores the importance of preparedness among graduates to secure fitting roles in the evolving job market. The literature highlights the dynamic nature of digital skills, with constant evolution necessitating a continuous commitment to reskilling (Chaudhuri et al., 2023) and upskilling to improve their technical skills to adapt to digital innovations in the future (Huang et al., 2021). In the contemporary workforce, individuals possessing advanced digital skills are not only better positioned to secure employment but also demonstrate increased adaptability in the face of technological advancements.

As the primary source of digital competencies, tertiary education institutions play a pivotal role in shaping individuals' digital competencies (Haleem et al., 2022). Integrating digital skills into higher education curricula has gained prominence, reflecting a recognition of the evolving demands of the job market. Studies highlight diverse models and strategies universities employ to impart digital skills, from dedicated courses to infusing technology across disciplines ((Pažur et al., 2023).

A pertinent curriculum should cater to the rising need for digital skills by empowering students to proficiently navigate networked information sharing, devise potential solutions, and effectively implement them (Yu & Duchin, 2024).

#### *Employability and Digital Competencies*

Consistent research findings underscore a positive link between digital competencies and employability. Individuals with advanced digital skills not only have better job prospects but also demonstrate increased adaptability to technological changes. Specific skills like programming and data analysis are particularly sought in various industries, as evidenced by case studies and empirical data.

Given the diverse demands across economic sectors, targeted studies involving various employers are necessary. Such research can shed light on the specific digital competencies valued by different sectors (Baah-Acheamfuor et al., 2023). Policymakers responsible for education should prioritise equipping youth with digital skills to enhance their success in today's job market (Kee et al., 2023).

In line with this, De Villiers Scheepers et al. (2024) analyse digital career competencies (DCC) metrics, offering insights into how these metrics can aid universities, students, and stakeholders in understanding competency development. These metrics serve as a concise framework for evaluating and fostering DCC growth in higher education. Additionally, studies emphasise the importance of boosting students' confidence in their skills and career paths for success in the digital workplace.

Confidence is linked to essential competencies like business acumen and social and digital adaptability, which are crucial for navigating the evolving work landscape (Potgieter et al., 2023).

Moreover, Berniak-Woźny et al. (2023) identify a gap between students' perceived and actual competencies and propose recommendations for enhancing competency development among university students. This ensures their readiness for the changing workplace environment (Chemli et al., 2024; Suarta et al., 2023). Through these integrated efforts, from targeted research to policy emphasis and practical application, stakeholders can better prepare students for success in the dynamic digital workplace.

Therefore, the interconnectedness between digital competencies, employability, and higher educational policies emphasises the importance of a multifaceted approach to preparing students for the modern workforce. Targeted studies illuminating sector-specific digital skill demands, coupled with policy initiatives aimed at fostering digital literacy among youth, can significantly enhance their employability prospects. Additionally, frameworks such as those proposed by De Villiers Scheepers et al. (2024) provide valuable tools for understanding and cultivating digital career competencies within higher education. Addressing the gap highlighted by Berniak-Woźny et al. (2023) is essential for empowering students to overcome the complexities of digital advancements and usage at the workplace with proficiency and resilience. By integrating these insights and initiatives, higher education institutions and other stakeholders can better equip students to thrive in the ever-evolving digital economy.

While existing studies have investigated the relationship between digital skills and tertiary education, as well as tertiary education and employability, a notable gap still needs to be in the literature regarding cross-country comparative analyses within the EU27 concerning the intersection of technology, education, and employability. Our research endeavours to address this gap by examining potential disparities across EU27 countries in this context.

Moreover, the literature review identifies a considerable gap regarding the insufficient emphasis on individual ICT and digital skills and their correlation with integration into the labour market. Therefore, this study primarily investigates whether individuals proficient in advanced computer skills, such as creating integrated files, utilising advanced spreadsheet features, and editing multimedia files, demonstrate higher probabilities of securing employment in roles requiring ICT skills acquired through education. Consequently, the research proposes two main hypotheses:

H1: There is a direct correlation between individuals' proficiency in ICT and Digital skills and their ability to secure employment in positions requiring ICT-related skills.

H2: The demand for candidates possessing expertise in ICT within the labour market positively influences the employment of individuals equipped with ICT skills acquired through education.

## METHODOLOGY

This study aims to investigate the correlation between labour market demand for ICT skilled graduates, employment rates for recent graduates, individual levels of digital skills for tertiary education graduates and Tertiary educational attainment as time-varying predictors on the employment rates with ICT skills over time, of young graduates of tertiary education across 28 countries in Europe and EU 27.

Thus, the research question is as follows: What is the intricate relationship between labour market demand for ICT specialists, employment rates of recent graduates, tertiary educational attainment, and individual level of digital skills, and their combined impact on the employment status of individuals with ICT education for a diverse set of 27 countries?

A quantitative research methodology was adopted to address this research's primary objective. Data was gathered from publicly available source Eurostat (2024), the European Union (EU) official statistical online platform. The use of multiple linear regression was appropriate in this study to assess the collective impact of multiple independent variables (refer to Table 1). A primary test was conducted using a multilevel regression to assess the impact of the independent variables (IVs) on the dependent variable (DV) across different countries. This regression included two blocks for the independent variables: Block 1 represented the countries, and Block 2 comprised the actual independent variables. The change in R-squared value was utilised to measure the impact of adding the IVs block.

However, the primary analysis results indicated a very low R-squared change of 0.04 between the two models. This suggests minimal variation across countries when considering the selected variables. Consequently, it was decided to perform a multiple regression analysis to further investigate the relationships between the independent and dependent variables without considering the country as a separate block. This decision was made based on the evidence suggesting insufficient across-country variation in our variables to permit separate consideration within the analysis.

### *Data collection and cleaning*

The study uses secondary data from the primary source Eurostat (2024) (European Commission, 2024). The variables collected are (1) Individuals' level of ICT skills, (2) Individuals' level of digital skills, (3) Labour market demand for ICT specialists, (4) Employment rates of recent graduates and (5) tertiary educational attainment, (6) enterprises using software solutions such as CRM. The authors



used filters aligned with the study scope, mainly to keep data related to tertiary education and the service industry. In addition, data marked as unreliable or incomplete has been excluded, resulting in removing certain countries from the dataset.

#### *Data analysis*

This study uses a multiple linear regression analysis to test the two previously mentioned hypotheses. The dependent variable is the employed persons with ITC education (DV). Our research involved studying various independent variables, all of which are continuous, as detailed in Table .

Table 1. *Model description*

| Variables               |       |  |            |
|-------------------------|-------|--|------------|
| Dependent variable - DV |       |  |            |
| DV                      |       | Employed persons with ICT education (2022)   | Continuous |
| Predictors              |       |  |            |
| IV1                     | IV1L1 | Individuals' level of computer skills - Individuals who have created files integrating elements such as text, pictures, tables, charts, animations or sound (3 months) | Continuous |
|                         | IV1L2 | Individuals' level of computer skills - Individuals who used advanced features of spreadsheet software to organise, analyse, structure or modify data (3 months)       |            |
|                         | IV1L3 | Individuals' level of computer skills - Individuals who edited photos, video or audio files (3 months)   |            |
| IV2                     | IV2L1 | Individuals' level of digital skills - Individuals with basic or above basic information and data literacy skills  | Continuous |
|                         | IV2L2 | Individuals' level of digital skills - Individuals with basic or above basic information and data literacy skills  | Continuous |
| IV3                     |       | Labour market demand for ICT specialists   | Continuous |
| IV4                     |       | Employment rates of recent graduates   | Continuous |
| IV5                     |       | Tertiary educational attainment  | Continuous |
| IV6                     |       | Enterprises using software solutions   | Continuous |

The authors employed a stepwise multiple linear regression approach to systematically select the most influential independent variables for predicting the number of employed individuals with ICT education. Stepwise regression offers a structured method to sift through a large pool of potential predictors and identify those with the strongest associations with the dependent variable. By

iteratively adding and removing variables based on statistical criteria, such as significance levels, we aimed to construct a parsimonious model that captures the essential factors driving employment outcomes for graduates with ICT skills from higher education. This approach helps streamline the analysis process, focusing our attention on the most relevant variables while minimising the risk of overfitting the model to the data. Ultimately, the use of stepwise regression enhances the interpretability and robustness of our findings, providing valuable insights into the factors influencing employment for graduates with ICT and digital skills.

To ensure the validity of the multiple linear regression results, several assumptions were tested using SPSS, including the absence of multicollinearity, homoscedasticity, normal distribution, and non-significance.

## **RESULTS AND DISCUSSION**

This study examined the multicollinearity assumption through the correlation table, using the tolerance and variance inflation factors (VIF) (Aguinis et al., 2013; Mansfield & Helms, 1982; Thayer, 2002). The results revealed three main predictor variables for DV.

It was noted that 100% of the variance of the independent variable in Model 1 IV2L2 was not accounted for by other independent variables. In Model 2, the tolerance values (Table 3) were found to be greater than 0.1 accounting for 0.603, and the VIF values less than 10, both equal to 1.658. In Model 3, the tolerance values are 3 of them greater than 0.1, successively 0.591 for IV2L2 and IV3, and 0.976 for IV1L2, and VIF less than 10 (ranging from 1.025 to 1.692), indicating that there were no multicollinearity concerns in the 3 models (Mansfield & Helms, 1982). Furthermore, the cook's distance (the measure of the residual statistics) was found to be less than 1 for the 3 models, with a maximum value of 0.18, indicating that no outliers were disrupting the models (Aguinis et al., 2013). The main predictors for the DV are IV2L2, IV3, and IV1L2. Thus, the individual's level of digital skills, the labour market demand for ICT specialists, and the individual's level of computer skills using advanced features. However, the use of software solutions in enterprises, tertiary education attainment and employment rates of recent graduates were excluded from the model due to non-statistical significance.

Table 2. *Multiple Linear Regressions - Variables in the Equations*

| Models                   |            | Unstandardised Coefficients           |            | t      | Sig.  | Correlations | Collinearity Statistics |       |
|--------------------------|------------|---------------------------------------|------------|--------|-------|--------------|-------------------------|-------|
|                          |            | B                                     | Std. Error |        |       | Part         | Tolerance               | VIF   |
| 1                        | (Constant) | 61,550                                | 3,396      | 18,122 | <,001 |              |                         |       |
|                          | IV2L2      | 0,502                                 | 0,103      | 4,859  | <,001 | 0,           | 1,000                   | 1,000 |
| 2                        | (Constant) | 31,747                                | 10,365     | 3,063  | 0,005 |              |                         |       |
|                          | IV2L2      | 0,721                                 | 0,116      | 6,226  | <,001 | 0,777        | 0,603                   | 1,658 |
|                          | IV3        | 0,532                                 | 0,177      | 3,000  | 0,006 | 0,374        | 0,603                   | 1,658 |
| 3                        | (Constant) | 35,020                                | 9,656      | 3,627  | 0,001 |              |                         |       |
|                          | IV2L2      | 0,686                                 | 0,108      | 6,361  | <,001 | 0,732        | 0,591                   | 1,692 |
|                          | IV3        | 0,479                                 | 0,165      | 2,905  | 0,008 | 0,334        | 0,591                   | 1,691 |
|                          | IV1L2      | -0,916                                | 0,399      | -2,296 | 0,031 | -0,264       | 0,976                   | 1,025 |
| Adjusted R Square        |            | 0,465 (b); 0,595 (c) and 0,656 (d)    |            |        |       |              |                         |       |
| F                        |            | 23,613 (b); 20,084 (c) and 17,529 (d) |            |        |       |              |                         |       |
| N                        |            | 27                                    |            |        |       |              |                         |       |
| P<0.05                   |            |                                       |            |        |       |              |                         |       |
| a Dependent Variable: DV |            |                                       |            |        |       |              |                         |       |

In the ANOVA analysis (Table 3), the null hypotheses were tested and found to be statistically significant ( $P < 0.05$ ). The F value was determined to be 23.613 with degrees of freedom of 1 and 25 for Model 1,  $F_c = 20.084$  with degrees of freedom of 2 and 24 for Model 2, and finally,  $F_d = 17.529$  with degrees of freedom of 3 and 23 for Model 3. These results led to rejecting the null hypotheses and the slope, implying that the models are statistically significant.

The unstandardised coefficients outlined in Table 2 signify the predicted change in the dependent variable (DV). For example, based on Model 3, a one-point increase in IV2L2, IV3, and IV1L2 corresponds to an expected change in the DV by 0.686, 0.479, and -0.916, respectively. Beta values, however, reflect the relative impact of independent variables (IVs) while considering the influence of other predictor variables. Notably, IV2L2 and IV1L2 demonstrate more substantial effects and stronger associations with the changes observed in the DV. The unstandardised coefficient, when squared, represents the variance explained on the dependent variable (DV) by the respective predictor. Therefore, eliminating the predictor IV2L2 would result in a reduction of 73.2% in the variance of the DV. This reduction would be more substantial than removing any other predictors in Model 3, a conclusion consistent with the analysis of beta values. Likewise, removing IV3 would lead to a decrease in the variance of the dependent variable (DV) by 51.8%, while eliminating IV1L2 would result in a reduction of 26.4% in the DV's variance. This hypothesis suggests that a rising demand for ICT specialists in the labour market, combined with individuals acquiring digital skills, is associated with increased employment rates among graduates proficient in ICT skills. However, proficiency in

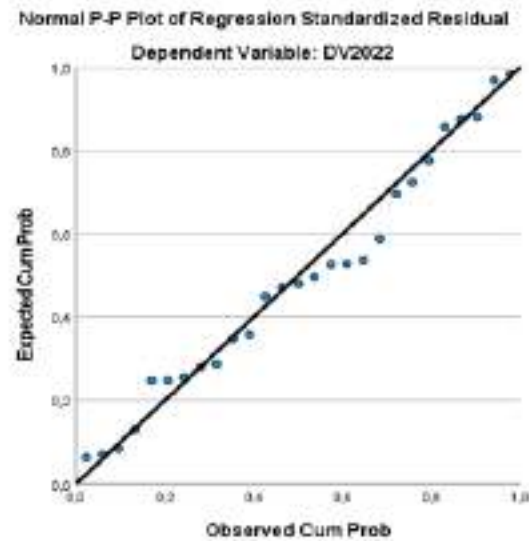
computer skills seems to affect the employment prospects of these graduates adversely. Recent research suggests a changing landscape regarding the importance of ICT skills in determining graduate employability.

Contrary to previous studies such as Koppi et al. (2009) suggesting that enhanced ICT skills improve graduates' access to the labour market, recent technological advancements have altered this landscape. While past studies underscored the importance of ICT skills, the evolving nature of technology has transformed these skills from being advantageous to becoming essential prerequisites for employment. As a result, digital competencies have eclipsed traditional ICT skills as a fundamental requirement in today's job market.

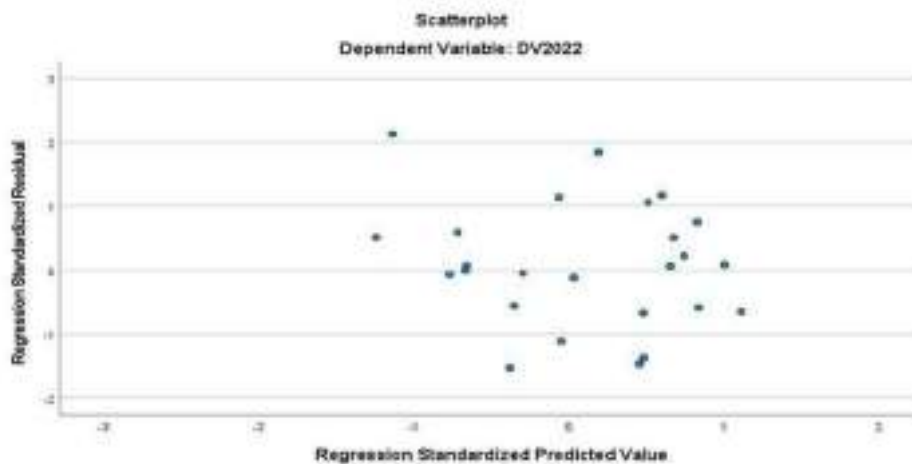
Table 3. ANOVA

| Model                                       |            | Sum of Squares | df | Mean Square | F      | Sig.   |
|---|------------|----------------|----|-------------|--------|--------|
| 1   | Regression | 3,635,948      | 1  | 3,635,948   | 23,613 | <,001b |
|   | Residual   | 3,849,506      | 25 | 153,980     |        |        |
|   | Total      | 7,485,454      | 26 |             |        |        |
| 2   | Regression | 4,685,755      | 2  | 2,342,877   | 20,084 | <,001c |
|   | Residual   | 2,799,699      | 24 | 116,654     |        |        |
|   | Total      | 7,485,454      | 26 |             |        |        |
| 3   | Regression | 5,207,715      | 3  | 1,735,905   | 17,529 | <,001d |
|   | Residual   | 2,277,740      | 23 | 99,032      |        |        |
|   | Total      | 7,485,454      | 26 |             |        |        |
| a Dependent Variable: DV                    |            |                |    |             |        |        |
| b Predictors: (Constant), IV2L2             |            |                |    |             |        |        |
| c Predictors: (Constant), IV2L2, IV3        |            |                |    |             |        |        |
| d Predictors: (Constant), IV2L2, IV3, IV1L2 |            |                |    |             |        |        |

Analysis of the probability plots (P-P plots) reveals a strong alignment between the distribution of data points and the reference line for both dependent variables. Additionally, the residuals demonstrate a normal distribution pattern, as shown in Figure 1. Moreover, the scatterplot presented in Figure 2 confirms the absence of outliers near either axis, contributing to a desirable distribution shape. Notably, points are evenly dispersed, both above and below zero, on the X-axis and to the left and right on the Y-axis. These observations collectively suggest homoscedasticity in the dataset, as depicted in Figure 2.

Figure 1. *Normal P-P Plot of Regression Standardised Residual*

The results suggest that individuals with ICT skills tend to access the labour market more easily; however, holding ICT skills negatively impacts the job market, supporting H1. Additionally, it is found that firms requiring ICT skills for graduates looking for jobs, enhance the employment of individuals equipped with ICT skills acquired through education, supporting H2.

Figure 2. *Scatterplot Z-Residual/ Z-Predicted*

## CONCLUSIONS AND IMPLICATIONS

The study concludes that digital skills represent one of the most important competencies allowing graduates to access employment. With the changing needs and requirements for new entrants, companies, whether using or not software and technologies, require certain skills, including digital ones.

The academic debate about the skills necessary for employment opportunities is constantly evolving. While previous studies have yielded valuable insights, it is imperative to acknowledge the changing landscape driven by technological advancements and ongoing societal shifts. Consequently, while acknowledging the contributions of past research, notably by Hecker & Loprest (2019) and Pirzada & Khan (2013), it's essential to interpret their findings within the contemporary context shaped by rapid technological progress.

This study aligns with recent scholarship, exemplified by the work of Zhang et al. (2023), which emphasises the importance of digital skills in facilitating access to employment. Building upon the groundwork laid by these prior studies, our research further underscores the critical role of digital competencies in navigating today's dynamic job market. By exploring the intricate relationship between digital skills and employability, our study enriches the ongoing discourse on workforce preparedness in an era characterised by digital transformation and innovation.

In today's professional arena, attaining digital skills has evolved beyond merely offering an edge for graduates; it has become an indispensable requirement. Higher education institutions must embed digital literacy within their academic programs and customise these proficiencies to address the unique needs of diverse industries.

Our study challenges the traditional notion that individual-level ICT skills provide a competitive edge, as Koppi et al. (2009) posited previously. Instead, we assert that in today's post-COVID era, characterised by remote work and the proliferation of online employment opportunities, proficiency in ICT is no longer a distinguishing feature but a fundamental requirement for all individuals. This shift in perspective underscores the urgency for graduates to possess a baseline level of digital competency rather than viewing it as a unique selling point.

Highlighting ICT skills as a competitive advantage may unintentionally give employers a false impression, considering their widespread prevalence rather than unique value. Hence, educational institutions and policymakers must acknowledge and respond to this paradigm shift. By emphasising fostering digital skills within the educational framework, graduates can effectively address the evolving requirements of the modern job market, bolstering their competitiveness in an increasingly digitalised environment.

Furthermore, the study's findings indicate a lack of significant variation in the employment of graduates with ICT skills across the 28 countries examined. This observation underscores the effectiveness of collective efforts at the European level to address employment challenges and promote the integration of ICT skills into tertiary education. Another significant conclusion drawn from the study pertains to the increasing demand for ICT skills in job offerings, which has contributed

to the heightened employment prospects for graduates possessing such skills. Consequently, while mentioning basic computer skills may not sway companies seeking candidates with ICT proficiency, they are likely to show greater interest in candidates with advanced knowledge or familiarity with software applications. These findings are consistent with the findings of Chemli et al. (2024).

#### *Managerial implications*

The research findings reveal a fundamental shift in employment dynamics: digital skills have become indispensable across sectors. Recognising technology's transformative impact, employers prioritise candidates with solid digital competencies. This paradigm shift stresses the urgent need for Higher Educational Institutions to adapt curricula to the current needs. Students must be equipped with the relevant digital skills that align with the industry's evolving demands. This adaptation includes fostering information literacy and software applications and improving data analysis capabilities.

Given these insights, policymakers are called to take proactive steps in leading initiatives to upskill the workforce and facilitate continuous and lifelong learning opportunities. Policymakers should prioritise integrating digital literacy programs into higher education institution (HEI) curricula and incentivise businesses to offer ongoing training to enhance digital skills among their employees. Additionally, HEIs should foster collaboration with industry partners to tailor curricula to meet both current and anticipated future demands of the labour market, thereby ensuring that graduates are adequately prepared to thrive in an ever-evolving digital landscape. By bridging the digital gap, policymakers can easily enhance employment prospects for recent graduates from tertiary education. The research findings clearly indicate the necessity of embracing digital competencies to navigate the ever-changing landscape of today's job market.

Furthermore, the study clarifies the dynamic nature of ICT skills and their pivotal role in shaping graduate employability. While traditional ICT skills retain relevance, digital competencies have emerged as decisive factors for success. With the rapid evolution of technology reshaping various industries, individuals must actively engage in continuous learning and adaptability to stay competitive. Lifelong learning and professional development initiatives are not merely advantageous but essential for navigating the shifting landscape of job requirements and career opportunities.

This research goes beyond offering insights; it provides practical recommendations for stakeholders. Policymakers and educators can make informed decisions by grasping the interaction between ICT skills, labour market dynamics, and graduate employability. This comprehensive approach, which empowers individuals with the necessary skills for the digital economy, is crucial for promoting sustainable economic growth and individual success in our constantly evolving society.

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## EUROPEANS' INTENTIONS TO BUY COSMETICS AND DETERGENTS CONTAINING RECYCLED CO<sub>2</sub>: AN EXPANDED TPB APPROACH

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### ABSTRACT

This study aimed to examine consumption intentions to buy cosmetics and detergents containing recycled CO<sub>2</sub> in four European countries (France, Germany, Greece and Spain). The Theory of Planned Behaviour was employed, expanded by Personal Norms and the model was found powerful to explain 72.8% of the variance in consumption intentions. Perceived Behavioural Control was found to be the stronger predictor of Consumption Intentions followed by Personal Norms. Subjective Norms and Attitudes indicated lower evidence of impact. To the best of our knowledge this is the first marketing research study, the focus of which was placed on cosmetics and detergents containing innovative green ingredients made from recycled CO<sub>2</sub>. The combination of TPB rational predictors with the ethical view of Personal Norms offered the ability to provide both theoretical and managerial implications, drawn from the interpretation of the results.

Keywords: Recycled CO<sub>2</sub>, Cosmetics and Detergents, Theory of Planned Behaviour, Personal Norms

### INTRODUCTION

The aim of this study was to examine European's intentions to purchase innovative, green packaged goods (i.e., cosmetics and detergents) that are going to contain recycled CO<sub>2</sub> by adopting a TPB model extended by personal norms. Among other theoretical models that have been used to examine consumers' pro-environmental decision-making process, Ajzen's (1991) well-known Theory of Planned Behaviour/TPB has probably indicated the strongest explanatory power, so far (Gkargkavouzi et al., 2019; Chen, 2020; Zhang et al., 2020; Nascimento and Loureiro, 2022). Several modifications and extensions of TPB have been proposed in order to reveal additional aspects that may be found capable of contributing to a deeper and broader understanding of intentions (Hassan et al., 2016; Ding et al., 2018). A very interesting route seems to be Ajzen's (2011) proposal to add a morally oriented aspect to the TPB predictors, in order to enrich the practical view of self-interest with

a broader, moral view, especially when the behaviour in question is socially desirable. It is argued that one of the main topics of conversation in the relevant contemporary research is the combination of personal norms and social influence in the prediction of sustainable consumer behaviours (Nascimento and Loureiro, 2022).

It is well accepted that Climate Change (CC) mitigation demands a multidisciplinary approach and cooperation (UNCC, 2021). The global effort involves mainly reduction of carbon gases, among which CO<sub>2</sub> counts for 75%. There has been significant evolution in technological innovations concerning carbon capture, utilisation, and storage / CCUS (van Heek *et al.*, 2017; Linzenich *et al.*, 2019), targeting to minimise CO<sub>2</sub> emissions (Huisingsh *et al.*, 2015; Arning *et al.*, 2020). This study is mainly related to CCU, also known as CO<sub>2</sub> recycling (Perathoner and Centi, 2014). There is an ending Horizon 2020 project, in which a reactor was developed that captures CO<sub>2</sub>, recycles it and produces chemical by-products (<https://suncochem.eu/>). These oxo-products are used to produce fast-moving consumer packaged goods (CPGs), such as cosmetics and detergents.

Although there has been a considerable number of studies relevant to technological innovations and CO<sub>2</sub> utilisation (Arning *et al.*, 2018), there has been scant research regarding consumers' attitudes and intentions regarding CPGs that are going to contain chemical ingredients made from recycled CO<sub>2</sub> (van Heek *et al.*, 2017; Jones *et al.*, 2017). It is to be underlined though that market response is quite crucial for any business initiative, particularly those that concern environmental protection and have been always found to be costly (Linzenich *et al.*, 2019). Specifically, with relevance to cosmetics and detergents, academic research has focused on organics, so far (Bui *et al.*, 2021; Hsu *et al.*, 2017; Shimul *et al.*, 2022), although they represent just 5% of the market (CBI, 2023).

Pro-environmental consumer research, during the last four decades, has indicated that different factors affect different product categories as the review papers have revealed (Michaelidou and Hassan, 2014; Liobikienė and Bernatoniene, 2017; Ding *et al.*, 2018). There is no doubt that academic research on green CPGs remains scant and inconclusive (Bom *et al.*, 2019; Linzenich *et al.*, 2019; Kronthal-Sacco *et al.*, 2020). Therefore, marketing research is absolutely necessary to address the impressively large gaps in the relevant area. To the best of our knowledge, this is probably the first effort, particularly focusing on cosmetics and detergents that are going to contain green, chemical ingredients, made from recycled CO<sub>2</sub>.

## THEORETICAL FRAMEWORK

TPB is an extension of the Theory of Reasoned Action/TRA (Fishbein and Ajzen, 1975), which had suggested that attitudes towards a behaviour and subjective norms determine an individual's intentions. Intentions, in turn, are considered to be the main predisposition of the actual behaviour performance. In TPB, Ajzen (1991) added a third determinant, the situational variable of perceived behavioural control, as a non-volitional factor, which can obstruct or facilitate intentions and behaviour.

TPB has been very popular in ethical behaviour, which includes pro-environmental consumer behaviour (Sun, 2020; Nascimento and Loureiro, 2022). Particularly with regards to cosmetics, TPB was applied in the examination of consumers' intentions to buy natural or organic personal care products (Kim and Chung, 2011, US; Hsu et al., 2017, Taiwan; Chin et al., 2018, Indonesia; Shimul et al., 2022, South Africa). Relevant research concerning detergents has been extremely rare. Arli et al. (2018) employed an expanded TPB model to examine environmentally friendly household products in Indonesia.

Of course, it is to be noted that TPB has been always viewed as a rational theory that faces consumers as mostly self-interested individuals (Ding et al., 2018). Nonetheless, Ajzen (1991 and onwards), staying in the view that consumers behave in accordance to their attitudes, acknowledges, too, that people's moral norms or ethical obligations should be incorporated into the model, when the behaviour under examination is morally oriented, such as any type of pro-environmental behaviours (Ajzen, 2011). Therefore, a number of TPB extensions have incorporated personal norms, mostly proposed in the Values-Beliefs-Norms / VBN theory by Stern et al. (1999) and Stern (2000), who were inspired and built upon Schwartz's Norm Activation Theory (NAM) about altruism (Schwartz, 1977). Following this direction, personal norms were added in the theoretical framework of this study (Figure 1).

With relevance to attitudes in TPB, they are conceptualised as consumers' positive or negative feelings generated by the specific context in examination. There have been previous studies in which attitudes were found to be the stronger predictor of behavioural intentions (Kim and Chung, 2011; Hsu et al., 2017; Chin et al., 2018; Shimul et al., 2022). In this study, it is hypothesised that the higher the consumers agree that buying CPGs with green chemical ingredients is good, desirable etc., the higher their intentions to buy them will be. Therefore, the following hypothesis was set:

H<sub>1</sub>: Attitudes impact Consumption Intentions significantly and positively.

Subjective norms refer to an individual's perceptions regarding what his influencers, either close or important persons, would like him to do (injunctive norms) or do themselves (descriptive norms), with regards to the behaviour under examination. There have been previous studies, in which subjective norms were found to affect intentions (Kim and Chung, 2011; Hsu et al., 2017; Chin et al., 2018; Shimul et al., 2022). In this study, it is hypothesised that the higher the social pressure a person feels the higher his intentions to buy CPGs containing green chemical ingredients will be. Therefore, the following hypothesis was set:

H<sub>2</sub>: Subjective Norms impact Consumption Intentions significantly and positively.

Perceived behavioural control refers to an individual's perceptions about the ease or, in the opposite, the obstacles regarding the behaviour under examination. There have been previous studies, in which perceived behavioural control was found able to influence the behavioural intentions under examination (Kim and Chung, 2011; Hsu et al., 2017). In this study, it is hypothesized that the higher a person's perceived control the higher his intentions to buy CPGs containing green, chemical ingredients will be. Therefore, the following hypothesis was set:

H<sub>3</sub>: Perceived Behavioural Control impacts Consumption Intentions significantly and positively

Personal norms refer to a person's feelings of moral obligation to contribute by their actions to the behaviour in question. There have been some previous studies in which personal norms (Nguyen et al., 2017; Li et al., 2021; Zhao et al., 2022) or moral norms (Razali et al., 2020; Oehman et al., 2022) were incorporated in a TPB model. In this study, it was hypothesized that the higher the personal obligation a person feels, due to moral reason to contribute to climate change mitigation, the higher his intentions to buy CPGs containing green, chemical ingredients will be. Therefore, the following hypothesis was set:

H<sub>4</sub>: Personal Norms impact Consumption Intentions significantly and positively.

## **METHODOLOGY**

The survey was carried out in four European countries (France, Germany, Greece, and Spain) with the employment of the stratified sampling method. Strata were designed according to the Gender and Age population distribution (Eurostat, 2021), in each country. The final sample came to 1846.

An electronic survey was conducted with structured questionnaires containing the following variables: Attitudes with four items measured on a 6-point semantic differential scale; Subjective Norms, Perceived Behavioural Control, and Consumption Intentions with four items each and Personal Norms with seven, all measured on 6-point Likert scales, from 0=Absolutely Disagree to 5=Absolutely Agree. The questionnaire also included five demographic variables, namely Gender, Age, Education, Income, and Occupation.

## RESULTS

Structural Equation Modelling was used to analyse the data via AMOS v.20. Data screening excluded nine outliers; hence, the final sample came to 1837 cases (FR=510, DE=569, GR=307, ES=451). The t-tests did not indicate any statistically significant differences between the demographic characteristics of the sample and the population parameters in each country.

In the final Measurement Model (Table 1), unidimensionality was reached after the exclusion of two items due to cross-loadings (Att1 from Attitudes) and error covariances (CI1 from Consumption Intentions). Convergent validity was assessed with factor loadings above 0.60, construct reliabilities greater than 0.80 and average variances extracted (AVE) values higher than 0.50 for all constructs (Hair *et al.*, 2010). Discriminant validity was also assessed as the AVE values of all constructs were greater than the squared correlations of each one with the other constructs in the model (Table 1).

The structural model resulted in well-accepted GOF values ( $\chi^2=937.209$ ,  $df=195$ ,  $\chi^2/df=4.806$ ,  $TLI=0.971$ ,  $CFI=0.976$ ,  $RMSEA=0.046$ ) indicating that the model fits the data well. The standardized regression weights indicated that there are statistically significant ( $p<0.001$ ) and positive structural relationships between Consumption Intentions and PBC, PN, SN, and Att (Figure 1).

The squared multiple correlation ( $R^2=0.728$ ) indicated that the expanded TPB of this study can explain 72.8% of the variance in European consumers' intentions to buy cosmetics and detergents containing ingredients with recycled CO<sub>2</sub>.

| Goodness of Fit                    | $\chi^2$  | df  | Sig.    | $\chi^2/df$ | TLI   | CFI   | RMSEA           |
|------------------------------------|---|-----|---------|-------------|-------|-------|-----------------|
|                                    | 937.209   | 195 | p<0.001 | 4.806       | 0.971 | 0.976 | 0.046           |
| Variables/items                    |   |     |         |             |       |       | Factor Loadings |
| Attitudes (Att)                    |   |     |         |             |       |       |                 |
| At2                                | Undesirable-Desirable   |     |         |             |       |       | 0.918***        |
| At3                                | Unwise (Foolish) / Wise   |     |         |             |       |       | 0.697***        |
| At4                                | Negative / Positive   |     |         |             |       |       | 0.716***        |
| Subjective Norms (SN)              |   |     |         |             |       |       |                 |
| SN1                                | My family members think I should buy CPGs containing green chemical ingredients                           |     |         |             |       |       | 0.880***        |
| SN2                                | My friends think I should buy CPGs containing green chemical ingredients                                  |     |         |             |       |       | 0.904***        |
| SN3                                | Important people who influence my behaviour think I should buy CPGs containing green chemical ingredients |     |         |             |       |       | 0.850***        |
| SN4                                | Persons, who are significant to me, do buy CPGs containing green chemical ingredients for themselves      |     |         |             |       |       | 0.855***        |
| Perceived Behavioural Control (CI) |   |     |         |             |       |       |                 |
| PB C1                              | Selecting a CPG containing green chemical ingredients is completely up to me.                             |     |         |             |       |       | 0.718***        |
| PB C2                              | I am confident that, if I want to buy a CPG containing green chemical ingredients, I can buy it.          |     |         |             |       |       | 0.881***        |
| PB C3                              | There are no obstacles for me if I want to select a CPG with green, chemical ingredients                  |     |         |             |       |       | 0.832***        |
| PB C4                              | I am confident that I can easily find a CPG containing green chemical ingredients if I want to buy it     |     |         |             |       |       | 0.774***        |
| Personal Norms (PN)                |   |     |         |             |       |       |                 |
| PN 1                               | I feel personally obliged to buy CPGs containing green chemical ingredients                               |     |         |             |       |       | 0.808***        |
| PN 2                               | Regardless of what others do, I feel morally obliged to buy CPGs containing green chemical ingredients    |     |         |             |       |       | 0.800***        |
| PN 3                               | I feel guilty when I do not buy CPGs containing green chemical ingredients                                |     |         |             |       |       | 0.759***        |
| PN 4                               | I feel morally obliged to use ecological products instead of regular products                             |     |         |             |       |       | 0.828***        |

|                                     |  |                     |                     |                     |                     |          |
|-------------------------------------|--|---------------------|---------------------|---------------------|---------------------|----------|
| PN 5                                | When I buy a new CPG, I feel a moral obligation to prefer one that contains green chemical ingredients   |                     |                     |                     |                     | 0.880*** |
| PN 6                                | People like me should do everything they can to buy CPGs containing green chemical ingredients   |                     |                     |                     |                     | 0.843*** |
| PN 7                                | I would be a better person if I consumed CPGs containing green chemical ingredients  |                     |                     |                     |                     | 0.750*** |
| PN 8                                | I feel obliged to take the environment and nature into account, in my daily behaviour  |                     |                     |                     |                     | 0.630*** |
| Consumption Intentions (CI)         |  |                     |                     |                     |                     |          |
| CI2                                 | I will buy CPGs containing green chemical ingredients if they are of similar price to the regular products                                       |                     |                     |                     |                     | 0.720*** |
| CI3                                 | I am seriously thinking to buy CPGs containing environmentally friendlier ingredients, as soon as I run out of the products I am currently using |                     |                     |                     |                     | 0.830*** |
| CI4                                 | I will definitely switch to a brand of a CPG that contains green chemical ingredients  |                     |                     |                     |                     | 0.867*** |
|                                     |  | Att                 | SN                  | PBC                 | PN                  | CI       |
| Construct Reliability               |  | 0.824               | 0.927               | 0.879               | 0.930               | 0.849    |
| Average Variance Extracted          |  | 0.614               | 0.761               | 0.646               | 0.625               | 0.653    |
| Correlations (Squared correlations) |  |                     |                     |                     |                     |          |
| Subjective Norms (SN)               |  | 0.543***<br>(0.295) |                     |                     |                     |          |
| Perceived Beh. Control (PBC)        |  | 0.481***<br>(0.231) | 0.635***<br>(0.403) |                     |                     |          |
| Personal Norms (PN)                 |  | 0.553***<br>(0.306) | 0.739***<br>(0.546) | 0.616***<br>(0.379) |                     |          |
| Consumption Intentions (CI)         |  | 0.602***<br>(0.362) | 0.725***<br>(0.526) | 0.753***<br>(0.567) | 0.740***<br>(0.548) |          |

\*\*\* p<0.001

Table 1. Measurement Model



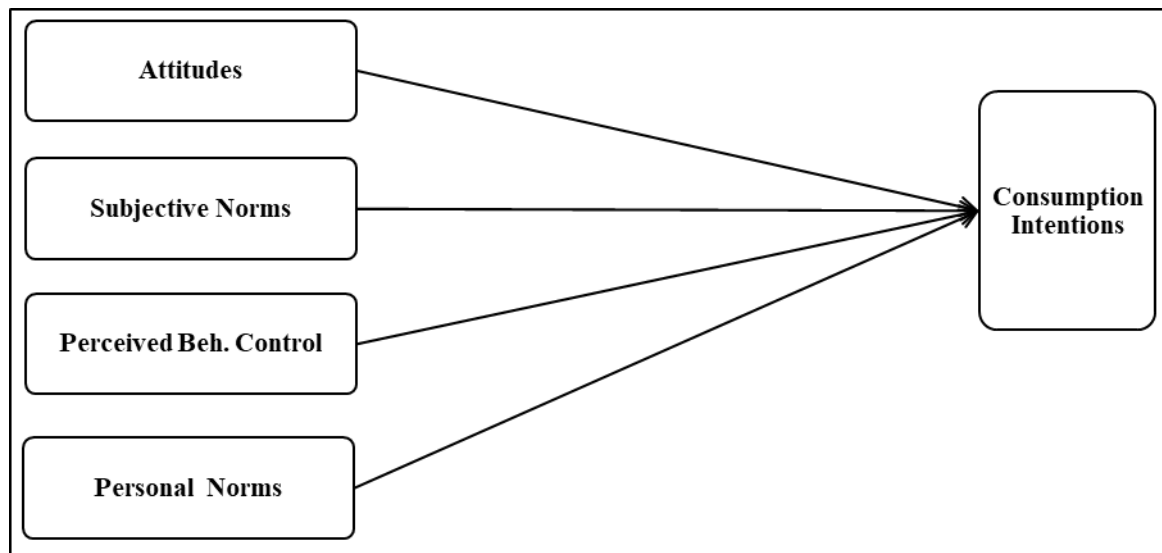


Figure 1. Structural model and hypotheses testing

## LIMITATIONS AND FURTHER RESEARCH SUGGESTIONS

There must be a social desirability effect in the results of this study, possibly in those of Personal Norms. This is always the case in the examination of pro-environmental consumer behavioural intentions. However, findings concerning Personal Norms did enrich our view and therefore, probably highlight a suggestion to combine rational and moral motivations and models, in future research designs. Improvements in phrasing and wording of some items could be also found useful in measurement accuracy and deeper understanding of some concepts.

As this study does not include an elaboration of the differences in the results of the four countries, future duplications, in other European and non-European countries, may focus on such discrepancies by also incorporating other aspects, for example, culture variables.

## DISCUSSION AND CONCLUSIONS

This study revealed that PBC is the most influential factor in contrast to previous results found in the literature, in which Att (Nguyen et al., 2017; Li et al., 2021; Zhao et al., 2022) or PN (Razali et al., 2020) were found to provide higher impact on behaviours or intentions. However, in line with some previous results (Nguyen et al., 2017; Li et al., 2021; Zhao et al., 2022) PN was found to be the second most influential factor.

The extended by Personal Norms TPB model of this study successfully explained almost  $\frac{3}{4}$  (72.8%) of the variance in European Consumers' intentions to buy packaged goods containing recycled CO<sub>2</sub> and, by this behavioural choice, to contribute to climate change mitigation. These intentions are mainly influenced by people's perceptions of their own control followed by their feelings of moral obligation to prefer the new, green cosmetics and detergents. To a lesser extent, the relevant intentions are affected by consumers' perceptions of thoughts and actions of important to them other people as well as by their attitudes.

## IMPLICATIONS

The results of this study lead to the theoretical suggestion that practical and moral criteria, when combined, offer a significant view to better understand consumers' intentions to contribute to climate change mitigation by their own consumption choices. More specifically the combination of perceptions of control over the behaviour (i.e. absence of barriers, easiness) and the sense of personal obligation (norms) that consumers feel seems a quite fruitful research path. Overall, it can be theoretically suggested that when consumers are more likely to intend to choose a green CPG when they think that there are no obstacles to find it, when they believe it is their personal, moral duty to contribute to climate change mitigation, while significant to them others would like them to do so and in addition when themselves find it good and desirable to prefer CPGs with recycled CO<sub>2</sub>.

In terms of practical implications, marketers should design their communication mix with the aim of establishing consumer perceptions of ease and lack of barriers to purchase the new, green cosmetics and detergents containing ingredients with recycled CO<sub>2</sub>. In combination, advertising messages should aim to enhance consumers' positive feelings about themselves, when they prefer an ecological product over a conventional one, feelings that eventually lead them to the moral obligation to prefer any new CPGs that are going to contain ingredients from recycled CO<sub>2</sub>. It has been previously suggested that communication about climate change engagement should exploit consumers' self-interest, emotional attachment (Peattie et al., 2009) and moral personal obligation to protect the natural environment in everyday choices that can contribute to climate change mitigation.

As for policy makers, when designing interventions towards carbon neutrality, all stakeholders (public authorities, either national or European, as well as ecological groups and organizations) should reassure people that just one easy and obstacle-free step, no matter how small, will have enormous positive effects on the reduction of carbon emissions. Above all, any public communication

should focus on enhancing everyone's ethical obligation to contribute to climate change mitigation, primarily via making more environmentally-friendly every-day choices.

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## LEADERSHIP DYNAMICS IN SILENCE MANAGEMENT: UNVEILING THE MECHANISM OF ORGANIZATIONAL CITIZENSHIP BEHAVIOR

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### ABSTRACT

As organizations continue to expand globally, the demand for leaders who can effectively navigate employees through diverse business environments is high. One successful strategy to accomplish this goal is to facilitate effective leader-member exchange (LMX) to promote organizational citizenship behaviour (OCB) and mitigate organizational silence. Especially organizations in the Information and Technology (IT) business must devise prompt and enduring solutions to encounter challenges to thrive in the swiftly evolving IT landscape. Therefore, drawing on the tenets of social exchange theory, the present study attempts to elucidate the unique link between LMX, OCB, and organizational silence by utilizing PLS-SEM (Partial Least Square-Structural Equation Modelling). The study adopted a cross-sectional design and collected data from 320 IT employees through survey questionnaires. The SEM results revealed a negative association between LMX and organizational silence, indicating that limited leader-member interaction correlates with reduced emotional attachment, trust, and employee support, contributing to increased silence. Whereas LMX perceptions facilitated OCB in IT business environment. The findings also observed that the association between LMX and organizational silence is partially mediated by OCB. By nurturing OCB, organizations can cultivate improved social interactions among employees, consequently amplifying their collective voice and engagement. The study findings are crucial for developing effective leadership programs in the corporate business environment, steering towards a future where innovation and talent development thrive in the evolving digital era.

*Keywords: Leader-Member Exchange (LMX), Organisational Silence, Organizational Citizenship Behaviour (OCB), PLS-SEM, IT Business.*

### INTRODUCTION

The present study aims to explore the intricate dynamics between leader-member exchange (LMX), organizational citizenship behavior (OCB), and organizational silence within the Indian IT Business Sector. The primary objective is to understand how employees' perceptions of their relationship with their leaders (LMX) influence their propensity to engage in extra-role behaviors (OCB) and their

tendency to withhold information or opinions (organizational silence). By examining these relationships, the study aims to provide insights into how effective leadership strategies can enhance employee engagement and reduce silent behaviors, thereby improving organizational performance. Additionally, the study investigates the mediating role of OCB in the relationship between LMX and organizational silence, aiming to fill the gap in the existing literature and provide a comprehensive understanding of these constructs' interplay.

In the era of the Industry 4.0 revolution, the dynamic and competitive global market necessitates a comprehensive understanding of all factors critical to the survival and profitability of organizations. Information technology (IT) is pivotal in the industry 4.0 revolution, driving innovation in products, services, and solutions. However, it faces challenges in managing the ever-growing speed, variety, and volume of data. To thrive in the swiftly evolving IT landscape, organizations in the IT sector must devise prompt and enduring solutions to encounter challenges and sustain perpetual development. Achieving these objectives necessitates the presence of robust leadership. A novel approach to this leadership is Leader-Member Exchange (LMX), which focuses on how the interactive bond between leaders and followers can help navigate the IT sector's challenges. Therefore, organizations must grasp the significance of LMX in driving profitability (Truckenbrodt, 2000).

LMX is characterized by the unique quality of exchanges, such as mutual trust, respect, and reciprocity, which go beyond formal role expectations. LMX research, as explored by various scholars (Muhammad Waqas Maharvi *et al.*, 2023; Henderson and Jeong, 2023), investigates the quality of relationships between managers and subordinates, linking them to employee behavioural outcomes. With trustworthy LMX relationships, employees are more and more incited to participate in organizational activities and meetings and contribute to the organization's success (Maamari *et al.*, 2021). Drawing from LMX theory (Graen and Uhl-Bien, 1995) rooted in Social Exchange Theory (SET) (Blau, 1964), the present study posits that the quality of the relationship between leader and member influences mutual obligations. According to SET, when followers see a leader as caring and concerned for their well-being, they feel compelled to reciprocate the support. Conversely, if a leader is arrogant, hypersensitive, angry, or lacks empathy, employees perceive the relationship as imbalanced or exploitative (Erkutlu and Chafra 2017). Additionally, the norm of reciprocity (Gouldner, 1960) suggests that favourable treatment prompts positive responses in attitudes and behaviors among employees, while unfavourable treatment often results in silence and a lack of engagement in extra-role behaviors such as OCB.

According to LMX theory, leaders, when lacking time and energy, prioritize building high-quality relationships with select trusted members, forming an inner circle. This creates a distance between leaders and other members, who may be seen as outsiders or mere employees (López, 2021). This

negative perceptions from supervisors can lead to organizational silence, where employees feel unable to voice their thoughts on managerial decisions (Adel *et al.*, 2020). Organizational silence, the concept introduced by Morrison and Milliken (2000), can lead to negative employee attitudes and behaviors Rayan *et al.*, (2020).

Various studies indicate that LMX is also a predictor of Organizational Citizenship Behaviors (OCBs), as employees who develop high-quality relationships with their leaders tend to demonstrate an inclination to exhibit behaviors that support their colleagues in an organization. The concept of OCB was initially introduced by Organ and defined it as *"individual behaviour that is discretionary not explicitly recognized by the formal reward system and that in the aggregate promotes the effective functioning of the organization"* (1988: pp. 1-43). OCB plays a vital role in fostering productivity within an organization, ensuring employee satisfaction, and nurturing a positive organizational culture in Indian organizations (Deshmukh and Sadhana Natu, 2023).

It is evident that LMX's effects on organizational silence and OCB hold significant importance for organizations striving to achieve their desired objectives. Organizational silence can hinder effective communication, decision-making, and problem-solving (Allan Herison Ferreira, 2023). At the same time, OCB contributes to the overall effectiveness and success of the organization by promoting cooperation, innovation, and a positive workplace culture (Mitchell *et al.*, 2024). Recognizing the significance of addressing both phenomena through LMX, organizations may create environments where employees feel empowered to voice concerns, contribute actively, and align their behaviors with organizational goals.

In contemporary literature, there is a visible gap in understanding the influence of LMX on organizational silence, particularly within diverse cultural contexts like India. Moreover, further investigation is required to explore how OCB mediates the relationship between LMX and organizational silence. Exploring these dynamics enhances comprehension of leadership in diverse cultures and provides strategies for nurturing an inclusive environment. Hence, the present study aims to address this critical gap by employing advanced statistical techniques to unravel the intricate interplay between LMX, organizational silence, and OCB. The study findings hold the potential to inform leadership practices and organizational policies conducive to fostering a culture of openness, trust, and proactive engagement among employees, thereby enhancing employee voice and engagement.



## REVIEW OF LITERATURE

### *LMX and Organizational Citizenship Behaviour*

The IT industry faces rapid technological changes, requiring it to adapt quickly (Alawadhi and Mendonca 2017). In India, according to NASSCOM (2024), improvements in process efficiency and automation are pivotal in shaping the industry. To stay competitive, IT companies need effective leadership strategies to motivate employees to go the extra mile, enhancing overall performance (Gibbs and Ashill, 2013).

LMX can be understood as the level and quality of interaction between a leader and a subordinate, which can influence the subordinate's level of OCB (Ürek *et al.*, 2019). LMX theory indicates that employees who maintain high-quality relationships with their supervisors are more inclined to increase their task engagement levels in the presence of superiors than low-quality exchanges within the leader-member relationship (Atatsi *et al.*, 2020). The social exchange theory forms the basis for understanding the relationship between HRM practices including LMX and organizational citizenship behavior (OCB). This theory focuses on employees' social interactions, emphasizing the benefits they gain in return for their contributions (Taamneh *et al.*, 2018). Subsequently, a leader's relational approach and attentive consideration towards a subordinate's social and professional life are imperative in comprehending these behavioral patterns. Kapil and Rastogi (2020) discovered that organizations fostering strong LMX relationships in the IT sector experience higher employee engagement and dedication to company objectives. Conversely, in low-quality exchanges, interactions follow rigid patterns, leading to negative impacts.

Novitasari (2020) and Nugroho *et al.*, (2022) highlight that effective leadership can drive organizational profitability, with OCB playing a crucial role. LMX strongly influences employee behavior, as it motivates employees to go beyond their formal roles, even without official recognition from the organization. While some research found no substantial impact of LMX on OCB (Mogi *et al.*, 2022), most literature emphasizes a positive association between employees' perceptions of LMX and their OCB. Given the contradictory perspectives within existing literature, the hypothesis has been formulated.

*H1: Employees' LMX perception is positively related to OCB.*

### *LMX and Organizational Silence*

LMX also shapes employees' silent behaviour, reflecting its broader influence within the workplace dynamics. When a substantial proportion of individuals within an organization choose to remain quiet about organizational affairs, silence emerges as a prevalent behaviour (Liu *et al.*, 2009). When leaders exhibit negative emotions, employees may interpret it as dissatisfaction with their performance, creating apprehension about potential negative repercussions (Chi and Ho, 2014),

resulting in organizational silence. Studies indicate that such negative emotions or limited interactions with leaders can reduce employees' willingness to share ideas (Liu *et al.*, 2017).

The research conducted by Zhao *et al.*, (2022) unveiled a positive correlation between LMX and promotive team voice. In contrast, LMX differentiation showed a negative association with prohibitive team voice, potentially contributing to organizational silence. Chen *et al.*, (2022) emphasized that employees characterized by low exchange with leaders demonstrate diminished levels of emotional attachment, trust, and support towards their leader. Research indicates that those with low LMX may face obstacles in expressing their opinions, receive less support, and encounter negative remarks from their superiors. This could potentially lead employees to adopt a stance of silence (Wang *et al.*, 2023). Consequently, the hypothesis has been proposed as follows:

*H2: Employees LMX perception is negatively related to Organizational Silence*

#### *OCB and Organisational Silence*

In the realm of organizational behavior research, two key concepts have gained prominence: OCB and organizational silence. Few studies have suggested a negative correlation between organizational silence and OCB (Çınar *et al.*, 2013), indicating the importance of further exploration in this area. For instance, Kılıçlar and Harbalıoğlu (2014) found an adverse relationship between organizational silence and OCB. It is observed that the employees' engagement in citizenship behavior decreases when they find it challenging to convey work-related ideas. As a result, the organization may miss out employees' contributions in the form of their valuable ideas, innovative solutions, and efforts beyond their regular job responsibilities. Hawass (2016) found that employees who participate in networking and extra-role behaviours, such as OCB, often engage in prosocial silence to shield their colleagues from embarrassment. Rayan *et al.*, (2020) observed that employees who committed themselves to engage in OCB's are less likely to remain silent. Few studies, in contrast to the study's proposed direction, tried to understand the impact of silent behaviours on OCB. A study conducted by Acaray *et al.*, (2015) examined how organizational silence dimensions influence OCBs. They found that employees who engage in acquiescent or defensive silence are less likely to exhibit OCB, whereas those displaying prosocial silence behavior are more inclined to do so. In view of the above literature, the following hypothesis has been formulated for the study.

*H3: OCB is negatively related to Organizational Silence*

#### *OCB as a Mediator*

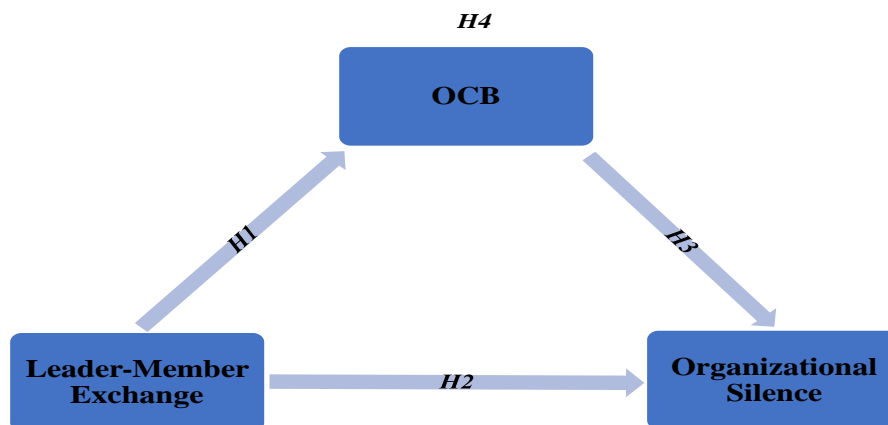
Upon reviewing the literature, very few studies have been found on the mediating role of OCB in the relationship between LMX and organizational silence. Some studies also highlight the mediating role of OCB between LMX and job performance (Bozdogan 2021). Research conducted by Bolino *et al.*, (2013) and Lam *et al.*, (2015) support the idea that OCB acts as a mediator between leadership styles

and organizational outcomes. However, a thorough analysis of the unique mediating effect of OCB between LMX and organizational silence remains an unexplored topic in the available literature. Wang and Zhang (2020) found that leaders must recognize the pivotal role of effective communication and trust in the efficacy of change leadership methodologies. It's crucial for leaders to empower and trust their team members while fostering open communication across the entire team. This approach helps leaders positively influence their employees' behavior, indirectly reducing organizational silence. (Landry, 2020). Thus, the following hypothesis is formulated:

*H4*: OCB mediates the negative relationship between employees' perception of LMX and Organizational Silence.

Following the formulated hypotheses, Figure 1 illustrates the conceptual model, demonstrating the interrelationships among LMX, OCB, and organizational silence.

Figure 1: Proposed Research Model



*Source: Authors own proposed model*

## METHODOLOGY

### *Sample and Procedure*

The data collection process for this cross-sectional study involved a non-probability 'purposive and snowballing sampling' technique due to feasibility constraints. To allow the employees to participate in the study, a consent letter was handed over. However, the survey form ensured their responses were anonymous to protect their identity and personal information. The survey reached out to 550 employees in the IT companies in Bangalore, known as the Silicon Valley of India. Among these 320 respondents participated, resulting in a 58.18% response rate. These respondents include entry-level and mid-level IT employees working under a manager or supervisor. The online survey ensured completeness with mandatory fields for all items.

The sample consisted of 66.3% males and 33.8% females. Considering the study's focus on measuring employees' perception of LMX, the gender of their immediate supervisor was taken into account. It was found that 70.9% of the supervisors were male, and 29.1% were female. This is evident in statistics such as those reported in Mogha (2022) and Skillssoft's 2022 Women in Tech Report for the India Region, which indicates that only a small percentage of women in the tech industry hold executive or managing director-level positions.

### *Measures*

#### *Leader-Member Exchange Multidimensional Measure (LMX-MDM)*

The employees' perception of the relationship with their immediate supervisor was measured using the Leader-Member Exchange Multidimensional Measure (LMX-MDM) developed by Liden and Maslyn (1998). It is a 12-item measure (reliability coefficient  $\alpha = .92$ ) containing four subscales that are affect, loyalty, contribution and professional respect. It is measured on a seven-point scale ranging from 1 = strongly disagree to 7 = strongly agree, where the total score leads to the overall perception of leader-member exchange by the employees.

#### *The Organisational Citizenship Behaviour (OCB) Scale*

A 15-item OCB questionnaire (OCBQ), developed by Podsakoff and MacKenzie (1989), was used to measure OCB. All 15 items will be rated on a seven-point scale, with the total score ranging from 1 = strongly disagree, to 7 = strongly agree. There are five dimensions: altruism, courtesy, sportsmanship, civic virtue, and conscientiousness. Reliability coefficient of the scale is 0.91.

#### *Organizational Silence Scale*

The organizational silence scale developed by Dyne *et al.*, (2003) is a multidimensional measure used to determine the organizational silence perceptions of employees. The reliability coefficient of the organizational silence scale is 0.77. The scale is a 5-point Likert-type scale which is graded as "strongly disagree to "strongly agree". It has three sub-dimensions: acquiescent silence, defensive silence, and prosocial silence, with a total of 15 items.

### *Data Analysis*

The study employed SPSS version 27.0 to conduct descriptive statistics and analyzed the relationships among variables. Additionally, Smart PLS version 4.0.9.8 software was utilized for hypothesis testing. Partial least square based- structural equation modeling (PLS-SEM) was employed to evaluate the measurement and structural models. The measurement model aimed to examine the relationship between observed items and latent variables, while the structural model focused on assessing the

hypothesized mediating relationships between latent variables. This analysis was facilitated by employing a 5000-retest bootstrapping system, as Ramayah *et al.*, (2018) outlined.

## RESULTS

### Descriptive statistics and correlation

**Table 1** presents the mean, standard deviation, and correlations among the model variables.

*Table 1. Descriptive statistics (means, standard deviations, and correlation)*

| SL | Latent variables                     | Mean  | S. D  | 1      | 2      | 3 |
|----|--------------------------------------|-------|-------|--------|--------|---|
| 1. | Leader-Member Exchange (LMX)         | 52.78 | 13.92 | 1      |        |   |
| 2. | Organizational Citizenship Behaviour | 66.34 | 16.37 | .36**  | 1      |   |
| 3. | Organizational Silence               | 41.72 | 11.52 | -.30** | -.54** | 1 |

**Notes:** \*\*-Correlation is significant at the 0.01 level (2-tailed); N = 320; **Source:** Authors own study  
*Confirmatory factor analysis (CFA)*

The scales utilized in the study underwent CFA using SmartPLS v.4.0.9.8 to validate their factorial structure. SmartPLS provides several fit indices and diagnostics, including the  $\chi^2$  statistic, Goodness of Fit Index (GFI), Comparative Fit Index (CFI), Normed Fit Index (NFI), and Root Mean Square Error of Approximation (RMSEA). The study results yielded significant results, which is presented in Table 2.

*Table 2. The goodness of fit statistics for the confirmatory factor analysis (CFA) of Leder-Member Exchange, OCB and Organisational Silence scale used in this study*

| Models                 | $\chi^2$ | df | $\chi^2/df$ | GFI  | CFI  | RMSEA | SRMR |
|------------------------|----------|----|-------------|------|------|-------|------|
| Leader-Member Exchange | 73.21    | 48 | 1.52        | 0.96 | 0.98 | 0.04  | 0.02 |
| OCB                    | 120.34   | 80 | 1.50        | 0.95 | 0.98 | 0.04  | 0.03 |
| Organizational Silence | 174.11   | 87 | 2.00        | 0.93 | 0.95 | 0.05  | 0.03 |

**Source:** Authors own study

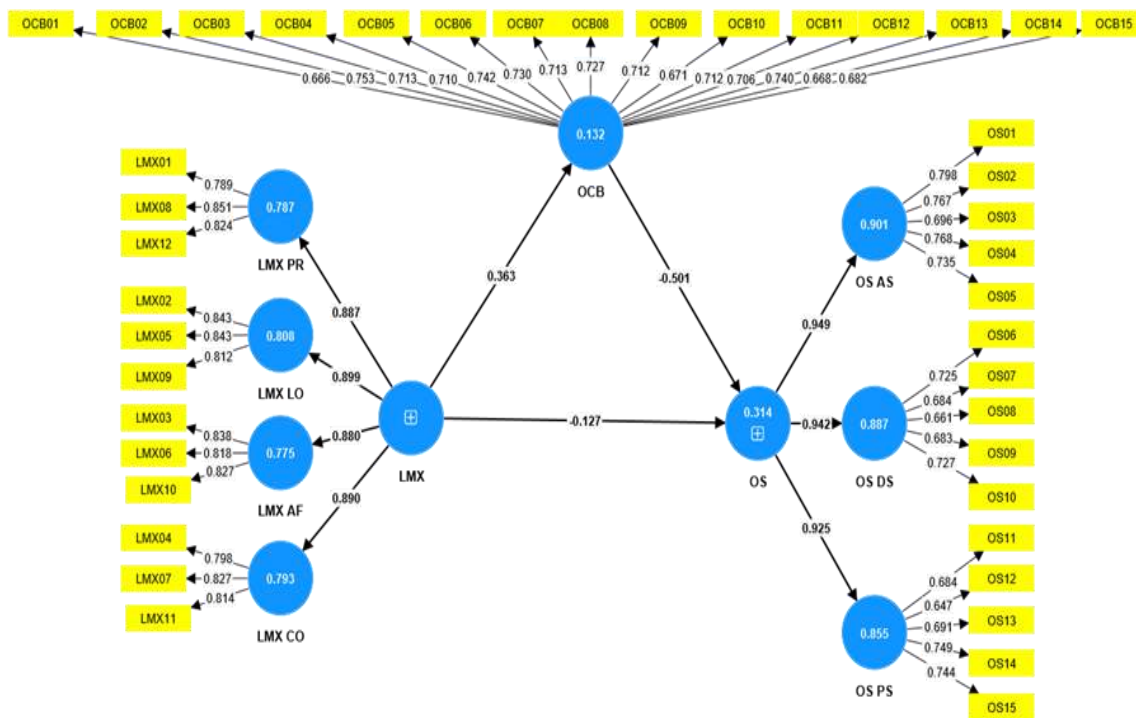
**Notes:** n = 320, \*\*\* p < 0.001

Based on the CFA conducted using Smart-PLS software, the indices of the LMX, OCB, and Silence scale demonstrate a satisfactory fit to the data, supporting its validity and reliability in measuring the intended constructs.

#### *Measurement model*

The measurement model plays a vital role in calculating the extent to which the construct was explained by indicators given in the study (Figure 2).

Figure 2. *Reflective Measurement Model*



Source: Authors own study; Extracted from SmartPLS v.4.0.9.8

The discriminant validity of the measurement models was evaluated utilizing HTMT criteria. Table 3 presents the results affirming discriminant validity through the HTMT criterion, as proposed by Henseler *et al.*, (2017). Any value surpassing this threshold (0.90) would indicate a potential lack of discriminant validity in the model. The model meets the criteria for HTMT, confirming discriminant validity.

Table 3. *Discriminant validity (HTMT 0.85 criterion)*

|        | LMX   | LMX   | LMX   | LMX   | LMX   | OCB   | OS    | OS    | OS    | OS |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|
|        |       | AF    | CO    | LO    | PR    |       |       | AS    | DS    | PS |
| LMX    |       |       |       |       |       |       |       |       |       |    |
| LMX AF | 0.803 |       |       |       |       |       |       |       |       |    |
| LMX CO | 0.638 | 0.859 |       |       |       |       |       |       |       |    |
| LMX LO | 0.878 | 0.858 | 0.889 |       |       |       |       |       |       |    |
| LMX PR | 0.899 | 0.899 | 0.895 | 0.898 |       |       |       |       |       |    |
| OCB    | 0.376 | 0.420 | 0.400 | 0.351 | 0.367 |       |       |       |       |    |
| OS     | 0.309 | 0.331 | 0.351 | 0.318 | 0.261 | 0.564 |       |       |       |    |
| OS AS  | 0.375 | 0.402 | 0.427 | 0.375 | 0.326 | 0.624 | 0.899 |       |       |    |
| OS DS  | 0.352 | 0.363 | 0.405 | 0.356 | 0.309 | 0.612 | 0.798 | 0.878 |       |    |
| OS PS  | 0.259 | 0.290 | 0.289 | 0.284 | 0.193 | 0.572 | 0.668 | 0.516 | 0.849 |    |

Note: LMX = Leader-Member Exchange; LMX PR=Professional Respect LMX LO= Loyalty, LMX AF=Affect; OCB= Organisational Citizenship Behaviour; OS=Organisational Silence, OS AS=Acquiescent Silence OS DS=Defensive Silence, OS PS= Prosocial Silence; Source: Authors own study

#### Structural model

The structural model was analyzed to determine the significance of the path model. Key metrics such as determination of coefficient ( $R^2$ ), predictive relevance ( $Q^2$ ), and effect size ( $F^2$ ) were assessed. Table 4 shows that the  $R^2$  value for OCB (0.131) falls below the acceptable range, while the value for OS (0.306) is deemed acceptable. Predictive relevance, evaluated through  $Q^2$ -Stone-Geisser, indicates small predictive relevance for both OCB (0.123) and OS (0.089). Effect size, measured by  $F^2$ , reveals a medium effect size for OCB (0.150) and OS (0.311).

Table 4. Determination of coefficient( $r^2$ ), Adjusted  $r^2$ , and Predictive relevance ( $q$ )

| Variables | Determination of Coefficient R2 | Adjusted R2 | Predictive Relevance Q2 | F2(Effect Size) |
|-----------|---------------------------------|-------------|-------------------------|-----------------|
| OCB       | 0.131                           | 0.128**     | 0.123                   | 0.150           |
| OS        | 0.310                           | 0.306**     | 0.089                   | 0.311           |

Source: Authors own study

#### Reflective measurement model

Reflective measures were utilized to assess all of the constructs in this study. Measurement models' reliability and validity were tested using the actor loadings, average variance extracted (AVE), composite reliability (CR) and Cronbach's alpha. Table 5, shows the scores of factor loadings, AVE, CR and Cronbach's alpha, of the given construct, representing the model's reliability and internal consistency. Table 5 depicts that each item's factor loadings of the construct are above 0.5, as Hair *et al.*, (1998) recommended. CR indicates the internal consistency of the latent construct estimated by Hoffmann and Birnbrich (2012). The score of CRs is more than the suggested threshold value of 0.7 (Nunnally, 1978). It has been observed that the values of Cronbach's alpha are also within acceptable range.

Convergent validity (CV) is crucial to assessing how well a measure correlates with alternative measures of the same constructs. It involves checking the outer loading values of items and AVE. The AVE for all constructs was found to exceed 0.5, recommended by Fornell and Larcker (1981), confirming the convergent validity of the constructs.

A collinearity test was conducted as suggested by Kock (2015), to address potential common method bias. This involved examining exogenous latent variables within the inner model for collinearity issues. The VIF results for each latent construct as below the '5.0 threshold', indicated the absence of multicollinearity issues among the latent constructs (Hair *et al.*, 2019).

Table 5. Results for the assessment of reflective measurement for first order

| Construct | Item  | Loading | AVE   | CR    | (rho_a) | Cronbach's Alpha |
|-----------|-------|---------|-------|-------|---------|------------------|
| LMX PR    |       |         | 0.675 | 0.862 | 0.760   | 0.759            |
|           | LMX1  | 0.789   |       |       |         |                  |
|           | LMX8  | 0.851   |       |       |         |                  |
|           | LMX12 | 0.824   |       |       |         |                  |
| LMX LO    |       |         | 0.694 | 0.872 | 0.781   | 0.779            |
|           | LMX2  | 0.843   |       |       |         |                  |
|           | LMX5  | 0.843   |       |       |         |                  |
|           | LMX9  | 0.812   |       |       |         |                  |
| LMX AF    |       |         | 0.685 | 0.867 | 0.770   | 0.770            |
|           | LMX3  | 0.838   |       |       |         |                  |
|           | LMX6  | 0.818   |       |       |         |                  |
|           | LMX10 | 0.827   |       |       |         |                  |
| LMX CO    |       |         | 0.694 | 0.781 | 0.744   | 0.744            |
|           | LMX4  | 0.798   |       |       |         |                  |
|           | LMX7  | 0.827   |       |       |         |                  |
|           | LMX11 | 0.814   |       |       |         |                  |
| OCB       |       |         | 0.504 | 0.938 | 0.931   | 0.930            |
|           | OCB1  | 0.666   |       |       |         |                  |
|           | OCB2  | 0.753   |       |       |         |                  |
|           | OCB3  | 0.713   |       |       |         |                  |
|           | OCB4  | 0.710   |       |       |         |                  |
|           | OCB5  | 0.742   |       |       |         |                  |
|           | OCB6  | 0.730   |       |       |         |                  |
|           | OCB7  | 0.713   |       |       |         |                  |
|           | OCB8  | 0.727   |       |       |         |                  |
|           | OCB9  | 0.712   |       |       |         |                  |
|           | OCB10 | 0.671   |       |       |         |                  |
|           | OCB11 | 0.712   |       |       |         |                  |
|           | OCB12 | 0.706   |       |       |         |                  |
|           | OCB13 | 0.740   |       |       |         |                  |
|           | OCB14 | 0.668   |       |       |         |                  |
|           | OCB15 | 0.682   |       |       |         |                  |
| OS AS     |       |         | 0.568 | 0.868 | 0.811   | 0.809            |
|           | OS1   | 0.798   |       |       |         |                  |



|       |      |       |       |       |       |       |
|-------|------|-------|-------|-------|-------|-------|
|       | OS2  | 0.767 |       |       |       |       |
|       | OS3  | 0.696 |       |       |       |       |
|       | OS4  | 0.768 |       |       |       |       |
|       | OS5  | 0.735 |       |       |       |       |
| OS DS |      |       | 0.511 | 0.825 | 0.735 | 0.734 |
|       | OS6  | 0.725 |       |       |       |       |
|       | OS7  | 0.684 |       |       |       |       |
|       | OS8  | 0.661 |       |       |       |       |
|       | OS9  | 0.683 |       |       |       |       |
|       | OS10 | 0.727 |       |       |       |       |
| OS PS |      |       | 0.521 | 0.830 | 0.744 | 0.744 |
|       | OS11 | 0.684 |       |       |       |       |
|       | OS12 | 0.647 |       |       |       |       |
|       | OS13 | 0.691 |       |       |       |       |
|       | OS14 | 0.749 |       |       |       |       |
|       | OS15 | 0.744 |       |       |       |       |

**Note:** AVE = Average Variance Extracted; CR = Composite Reliability; LMX = Leader-Member Exchange; LMX PR=Professional Respect LMX LO= Loyalty, LMX AF=Affect; OCB= Organisational Citizenship Behaviour; OS AS=Acquiescent Silence OS DS=Defensive Silence, OS PS= Prosocial Silence.

### Mediation analysis

#### Structural equation modelling—hypotheses testing

The proposed model was rigorously evaluated using a 5000-retest bootstrapping system, as recommended by Ramayah *et al.*, (2018), to calculate coefficients, t-statistics, and significance values (p). Hypothesis testing centred on LMX(IV), OCB(MV) and organizational silence (DV) (Depicted in Figure 3). Table 6 shows that employee's perception of LMX practices has a significant degree of association with organizational silence (direct effect) ( $\beta = -0.136$ ,  $t = 2.629$ ).

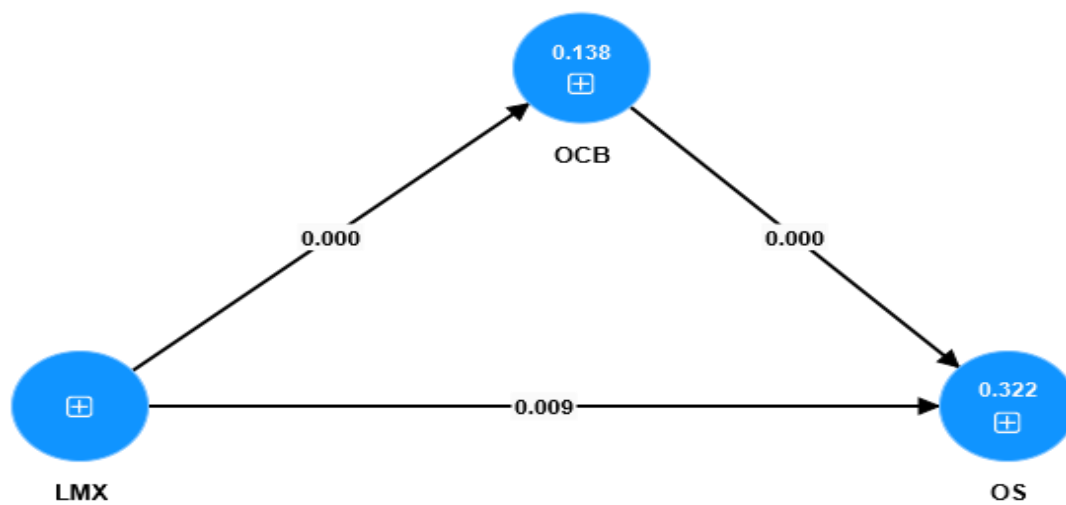
#### Indirect effect (Mediating effect)

The mediating effect was assessed using the variance accounted for (VAF) approach, following Hair *et al.*, (2019) guidelines. The calculated VAF value (0.588), obtained by dividing the total indirect effect (-0.193) by the total effect (-0.328), suggests partial mediation (**Figure 3**). This indicates moderately strong partial mediation (Hair *et al.*, 2019) supporting H4.

Table 6. Results of the Structural Model (Mediation Analysis)

| Type of Effect  | Structural Path | Path Coefficient | T stats                            | P-values | Remark              |
|-----------------|-----------------|------------------|------------------------------------|----------|---------------------|
| Total Effect    | LMX-->OS        | -0.328           | 5.871**                            | 0.000    | Sig Total Effect    |
| Indirect Effect | LMX-->OCB-->OS  | -0.193           | 6.062**                            | 0.000    | Sig Indirect Effect |
| Direct Effect   | LMX-->OS        | -0.136           | 2.629**                            | 0.009    | Sig Direct Effect   |
| VAF             | IE/TE           | 58.8%            | Moderately strong mediation Exists |          | H4 accepted         |

Figure 3. Path Analysis Model (Extracted from SmartPLS v.4.0.9.8)



Source: Authors own study

## DISCUSSION

The Indian tech industry is on the verge of a profound global transformation, resonating with the evolving paradigms of the modern workspace (Ghosh *et al.*, 2024). In this turbulent business environment, many IT business leaders have technical expertise but may have limited experience in interpersonal exchange with their employees. Here, the role of LMX in fostering extra-role behaviour and the voice of the employees is often underestimated. The present study utilized a second-generation statistical analysis, PLS-SEM, which comprehensively explains these relationships and highlights the practical implications for organizations.

Empirical results from the present study underscored a positive correlation between LMX and OCB, aligning with previous studies by Kapil and Rastogi (2020). The results suggested that positive exchanges between leaders and followers prompt the undertaking of extra-role behaviours (OCB) that are beneficial for the organization, thus verifying *H1* and supporting the tenets of social exchange

theory. The future of work will be shaped by influential leaders and their micro skills in enhancing employee engagement through continuous exchange (Ghosh *et al.*, 2024). The study also echoes findings from other studies by Liu *et al.*, (2017) and Zhao *et al.*, (2022), emphasizing that robust leader-member exchanges can promote employee voice, thereby reducing the silence, thus verifying *H2* and substantiating social exchange theory. The study results reaffirmed the negative correlation between OCB and organizational silence, consistent with prior research verifying *H3*. This highlights the importance of promoting OCB in the workplace to encourage employees to speak up and voice their opinions on critical organizational matters, which is essential for business improvement.

Furthermore, the results indicated that OCB partially mediates the relationship between LMX and organizational silence, providing organizations with valuable insights for enhancing OCB through diverse initiatives and activities such as 'Leadership Training Programs'. This finding will help organizations implement training programs for leaders to improve their interpersonal and communication skills. The study indicates that organizations should recognize the pivotal role of LMX in promoting OCB. By doing so, they can enhance the voice of the employees. In addition, leaders or managers serve as the crucial link between the organization and its employees. Providing them with the appropriate skills through specialized learning programs enhances the overall employee experience, encompassing engagement, retention, and recruitment (Ghosh *et al.*, 2024). This insight is particularly relevant for the IT business, where collaboration and synergy are essential for optimal performance and innovation (Mishra, 2023).

## **THEORETICAL IMPLICATIONS**

The present study findings affirm the core principles of Social Exchange Theory (SET) by Blau (1964), based on the notion that leaders do not treat every employee equally. Employees with a strong perception of social exchange will thus be prosocially motivated and will feel a greater obligation to reciprocate the benefits and support received by engaging in behaviours that exceed the minimum requirements for employment. Employees increase their efforts by demonstrating that social exchange perceptions are associated with improved work performance and OCB (Andersen *et al.*, 2020). The strength of the theory is based on the fact that managers need to understand the significance of social exchanges to get to know the level of commitment of employees (Cropanzano and Mitchell, 2005), and committed employees often avoid involving in silent behaviour (Fard and Karimi, 2015). Furthermore, viewing these dynamics through the lens of SET provides a framework for exploring further intricacies in the relationship between various outcomes of LMX and effective people management strategies for business transformation in this turbulent era.

## **ORGANIZATIONAL IMPLICATIONS**

According to 'Future of Work Trend Report' (NASSCOM, 2024), organizations are fostering an open and accessible culture where new hires can engage with senior leaders. Leaders at all levels are making themselves available to connect directly with employees and address concerns promptly and transparently. In this regard, the findings from the present study can serve as a foundation for initiating long-term projects exploring the role of LMX in people management, akin to DDI's 'Global Leadership Forecast 2021', which stands as one of the most comprehensive leadership research endeavours to date. Covering over 50 countries and 24 major industry sectors, it encapsulates top talent practices and offers crucial trends to shape the future of leadership. Further expanding and replicating the study in different sectors across India can prompt necessary policy amendments for employee welfare. Aligned with the UN Sustainable Development Goals (SDGs) 'Decent Work and Economic Growth' (United Nations, 2022), the study addresses empowering the workforce, addressing talent retention challenges, and advocating for policies supporting innovation and decent work environments.

Further, utilizing PLS-SEM allows for a more comprehensive examination of the proposed conceptual model, yielding robust findings and implications in the present study. The study, delving into the impact of employees' perception of LMX on OCB and silence, underscores the need for heightened micro-level research within the realm of leadership- and employee outcome studies in the Indian IT business sector.

## **LIMITATIONS AND FUTURE DIRECTIONS**

The current study shares common limitations observed in other empirical organizational behaviour studies. The study focused solely on the Indian IT sector in Bangalore, and future research should encompass various industries that employ the same conceptual model. Further, the present study considered positive LMX and OCB as predictors of organizational silence. Future studies might consider other antecedents to examine their impact on silence. The second major limitation of the present article is that it did not consider the role of moderating variables; instead, it narrowed its scope solely to OCB as a mediator. Lastly, the data collected was at one point in time (cross-sectional). These types of data cannot offer causal effects. Consequently, concluding causality in the study analyses becomes unattainable. Future studies can be directed towards proposing a causal model between the variables by incorporating the primary data derived from experimental or longitudinal methods.

## CONCLUSION

An optimistic Leader-Member Exchange is critical in predicting high OCB and addressing employee silence. In conclusion, the present study advocates for a paradigm shift in organizational strategies, urging human resource managers to prioritize the cultivation of positive LMX to achieve enhanced employee voice and a more proactive and committed workforce, as evidenced by OCB. This holistic understanding, backed by robust statistical analysis, offers actionable insights for organizations aiming to thrive in the global and dynamic IT landscape with positive LMX.

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## GREEN AND SUSTAINABLE ENTREPRENEURSHIP IN THE FOOTWEAR INDUSTRY: THE PORTUGUESE EXPERIENCE

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### ABSTRACT

Awareness of the impact of human beings on the environment has directed the business world towards sustainable development practices, consisting of the satisfaction of market needs without compromising the resources of future generations.

We intend to identify the key concepts of green and sustainable entrepreneurship, obtaining the perception of the knowledge that currently exists in the area.

To this end, the methodology used consisted of a literature review and a description of the footwear industry, to draw current conclusions regarding production methods. Furthermore, it provides a complementary perspective related to the options applied by the footwear industry to assess its environmental impact.

*Keywords: Green Entrepreneurship; Sustainable Development; Shoe Industry; Environmental Impact; Production Methods.*

### INTRODUCTION

This study aims to identify the key concepts of green and sustainable entrepreneurship.

The rapid evolution of societies has translated, in addition to an era of prosperity, into a time of pronounced environmental problems. The increasing development of society and the choices made for human satisfaction have resulted in the overuse of natural resources and their pollution (Lenton et al., 2019).

Sustainability issues have received wide recognition over the last decade, along with the importance of green entrepreneurship (Gifford et al., 2020). The fashion and footwear industries are, among the various industries that affect the environment, the most polluting. Currently, these industries generate between 8% and 10% of the world's carbon dioxide emissions, including transportation and aviation.



In addition, about 20% of water pollution is caused by textile dyeing and finishing (European Parliament, 2022).

This research intends to understand the concepts of green entrepreneurship, being *later* related to sustainability. The focus was on the description of the factors that have a significant environmental impact on the footwear industry, along with the materials used in production. The unique contributions of this research are in listing the unsustainable practices adopted by the footwear industry and providing alternatives. In addition, it aims to describe the current global picture, support future lines of research, and alert to the need for effective change.

In this sense, the idea of green entrepreneurship as a social emergency is highlighted, as well as the need to review the literature, which even though it exists in abundance, is not applied in practical terms. The research was based on a comprehensive qualitative approach, not focused on any specific geographical area, to understand the global dimension of the problem.

Having said this, this article is divided into five sections, and the first, after the introduction, refer to the literature review, with the description of the concepts of green entrepreneurship, relating them to sustainability. Subsequently, the research methodology used is explained, and the fourth section is the diagnosis of the footwear industry. Finally, the final considerations are presented along with the limitations and future lines of research.

## **THEORETICAL FRAMEWORK**

### *Green Entrepreneurship*

Green entrepreneurship practices are those that, through knowledge, initiative, and resources, meet innovative and sustainable solutions. These practices encompass all activities that counteract the degradation of the environment while making a positive contribution to it (Navarathinam & Amutha, 2022).

Alonso et al. (2018) argue that this concept is related to the measures imposed by companies to reconcile the preservation of the planet with technological advances and the quality of human life. Thus, when companies implement these ideals, combined with financial sustainability, they find themselves in a favourable environment for green and sustainable entrepreneurship (Navarathinam & Amutha, 2022).

Vuorio et al. (2017) concluded that traditional entrepreneurship is directed towards prioritizing monetary rewards, in contrast, the green entrepreneur focuses on achieving environmental and social goals first. According to Nikolaou et al. (2018), the motivation of green entrepreneurs varies: some are

affected by the institutional context of society and the need for change, while others seek a competitive and strategic advantage through sustainable innovation.

In addition, Gao et al. (2019) argue that green entrepreneurship is defined by a company's green innovative behaviour of products, services, and market development. An efficient strategy oriented towards protecting the environment and handling benefits in consideration of it is present. Therefore, sustainable competitiveness can be reflected through the individual's knowledge, attitudes and skills (Masciarelli et al., 2020). Regarding the primary competencies that the sustainable entrepreneur should possess, these authors list: systematic thinking (the ability to identify, analyze, and combine the different areas of the company); administrative science; the ability to understand and anticipate the impact on environmental, social, and economic fields; ability to apply sustainability values and goals; accept opinions and decisions on environmental and social problems; communication and collaboration skills; social responsibility and strategic management.

Meyer and Krüger (2021) establish that entrepreneurship is the vehicle by which one enters the economic system. In this regard, several authors (e.g., Ibe et al., 2020; Chigozirim et al., 2021; Gregori & Holzmann, 2020; Hahn et al., 2018 and Bouzari et al., 2021) argue that entrepreneurial spirit ensures the necessary characteristics to exploit different business opportunities with the available resources using new ideas and innovation. Therefore, sustainable entrepreneurship is a key factor in the search for economic opportunities that generate future products that have economic and non-economic benefits for society.

According to Zhang et al. (2019), green innovation is presented as the essence of green entrepreneurship, and a high investment cost is required, which increases the company's liabilities. Green innovation is a long-term-oriented strategy aiming to decrease the contamination of business activities on the environment through product and process innovation (Guo et al., 2020).

Nevertheless, Geng et al. (2020) report that, to date, the literature on green entrepreneurship is still being developed and is very scarce. The studies already conducted have investigated the effect of green innovation, without obtaining conclusive results.

#### *Relationship between green entrepreneurship and sustainability*

According to Stubbs (2017), sustainable entrepreneurs are key to solving social and environmental problems, needing to recognize sustainable entrepreneurship opportunities that arise through gaps in the market.

In recent decades, green entrepreneurship, in tandem with technological development, has come to prominence significantly. Taking into consideration the definition suggested by Potluri and Phani

(2020), the concept is reflected in organizations that focus on technological development, directed at mitigating the impact of humans on the environment. Technology entrepreneurship, in this context, refers to the identification of market opportunities for green technology products and/or services and also the creation and exploitation of an appropriate business model (Trapp & Kanbach, 2021).

According to Hawken (1993), business is the only mechanism with sufficient power to produce the changes needed to reverse global environmental and social degradation. In this sense, Navarathinam and Amutha (2022) interpret green entrepreneurship as a necessity. They state that to preserve the future, sustainable development is a factor that has to be considered in line with green entrepreneurship since nature is an uncontrollable and exhaustible resource. In contrast, all other resources, whether economic or social, can be managed.

In terms of company behaviour, companies must implement a clear link between green entrepreneurship and sustainability (Ameera & Khanb, 2022). According to Terán-Yépez et al. (2020), the primary focus of researchers was to understand how entrepreneurs identify sustainable opportunities. Thus, it was concluded that they can put into practice the GEO (Green Entrepreneurial Orientation) strategy, which leads to sustainably responsible decisions in a business context.

Makhloufi et al. (2021) consider that sustainability is the basis for sustainable entrepreneurship. Therefore, GEO practice seeks to harmonize the relationship between the internal and external environment of organizations so that there is a positive evolution of sustainable innovation in environmental performance.

It is relevant to highlight the concept of CSR (Corporate and Social Responsibility) advocated by Stutz (2021). This is composed of an extensive and interdisciplinary nature that expedites, on the one hand, adaptation to the ever-changing economic, political, and social context; and on the other, to the market and the internal environment in the organization, involving concern for one of the main stakeholders: the community.

Mostepaniuk et al. (2022) state that companies today seek to integrate sustainable CSR practices into their strategies to gain a competitive advantage. There is, therefore, a strong relationship between CSR and sustainability, since, according to the same authors, both concepts are seen as fundamental tools in solving social and environmental problems.

## **METHODOLOGY**

Within the scope of methodology, the researcher finds at his or her disposal theories, language, techniques, and instruments to provide answers to the problems of a particular field or area of study (Reis, 2010; Taylor & Bogdan, 1992).

According to several authors (e.g., Alves-Mazzotti & Gewandsznajde, 1998; Gil, 1994; Lakatos & Marconi, 2003), the methodology applied in the research context can be segmented into three classifications: as to the nature, which can be Pure and Applied Research; as to the purposes, involving exploratory, descriptive and explanatory research and, finally, as to the method, this being a set of methodical and rational activities, allowing the goal to be reached, highlighting errors and assisting in decisions. The latter allows the researcher to adopt an experimental path; bibliographic; documental; field; *ex-post-facto*; survey; with the inquiry; interview; case study; action; ethnographic and ethnomethodological (Lakatos & Marconi, 2003, p. 83).

Each of these segments requires a set of research procedures, techniques and instruments that will assist the researcher in his analysis, data collection and information. This analysis procedure may be qualitative or quantitative (Alves, 2021).

Considering the fundamental purpose of this article, the adoption of the qualitative methodology in detriment of the quantitative one proved to be adequate. The main objective is to explore a phenomenon that has not yet been considered in the literature, relating green and sustainable entrepreneurship with the existing literature on the environmental impact of the global footwear industry (Weiss & Roelen-Blasberg, 2014).

Regarding the research strategy, the use of a case study method was found to be pertinent. As Silverman (2013) argues, the choice of the research method must comprise an overall research strategy, since it is the methodology that defines which methods will be used and how. Nevertheless, due to the scarcity of quantitative and qualitative resources about international footwear brands, such as Adidas, the comparative nature was not found to be valid and sustained (Weiss & Roelen-Blasberg, 2014).

## **DIAGNOSIS OF THE PORTUGUESE FOOTWEAR INDUSTRY**

### *Footwear market*

The estimated value of the global footwear market is around \$381.9 billion, with significant growth expected in the coming years to reach \$508 billion in 2027 (Smith, 2022). On the other hand, *per capita footwear* consumption has increased considerably over the past few years and is expected to grow by 6% in 2022, according to the latest *Business Condition Survey* (APICCAPS, 2022).

The geographical areas of footwear production are another aspect to note. According to the report for 2020, Asia continues to be the largest responsible for footwear production (APICCAPS, 2021). This produces about 87.6% of the world's footwear, followed by Africa and Europe. However, footwear consumption differs between countries, in that China, for being the largest population in the world, is

the largest consumer of footwear. However, the United States of America (USA) is the largest consumer *per capita*, since each inhabitant buys, on average, 6.9 pairs of shoes per year (Worthington, 2022).

Statistically speaking, in 2018, the fashion and footwear industry emitted about 8% of CO<sub>2</sub> emissions, similar to the environmental impact of the European Union. However, only 1.4% came from the footwear industry (Quantis, 2018).

#### *Materials used to make footwear*

The use of raw materials, water, and energy is assumed to be part of the production process. However, the different components present in raw materials have different impacts on the environment (Muthu & Li, 2021).

Footwear is mostly composed of leather, textile and various other types of synthetic materials, and there may be as many as 40 different materials (Smith, 2022). As an example, a common pair of shoes is made up of 25% leather, 17% polyurethane, 16% thermoplastic rubber, 14% ethylene vinyl acetate, 8% polyvinyl chloride, 7% rubber, 7% other materials, and 6% textiles and fabrics (Mia et al., 2017).

When choosing materials, it is usual to opt for low-cost products, which facilitate and speed up the production capacity. Currently, every component used in the production of the sole, upper, heel and finishing process has negative impacts (Table 1) on the environment and human life (Better Shoes Foundation, 2022).

Table 1: Description of the materials used in production, their impact and the advisable substitute

| Material              | Description   | Environmental Impact   | Advisable Substitute   |
|-----------------------|---|--|--|
| Chrome Tanned Leather | Chromium is a heavy metal used for tanning leather.   | Tannery waste contaminates water sources through neglect (in rivers).                  | Cellulose fibre; cato leather; cork sheet; fine mycelium; biocouture; BeLeaf; BioVeg; Mirum, (...) |
| Conventional cotton   | The chemicals (pesticides) used in cotton production eliminate or stop the growth of organisms, impairing essential biological processes. | In the rainy months, it drags down excess pesticides, contaminating the water sources. | Liberated fibres, e.g. hemp; climatex and/or organic cotton  |
| Basic Dyes            | Dyeing is a method of applying colour to fabric   | The various chemicals present in dyeing can pollute                                    | Reactive Dyes  |
| Acid dyes             |   |  | Waterless dyed fabric  |

|   |  |   |   |
|---|--|---|---|
| Disperse dyes                                 | and can be done at any time during the production process. It can be applied to fibers, yarns, fabrics, or to a complete garment. They can dye acrylic fibers, protein fibers (wool, silk, nylon), polyester and cotton yarns separately | the water supply of local communities and wildlife.   | Undyed fabric   |
| Direct dyes                                   |  |   |   |
| Vat dyes                                      |  |   |   |
| Durable water repellent (DWR) treated fabrics | Synthetic chemicals with fluorine. Their purpose is to make the parts waterproof.  | Long-lasting materials can remain in the environment for hundreds of years. Animal studies have proven that these materials cause tumours, cancer, and reproductive problems. | Bionic-Finish®Eco<br>Nikwax<br>Sympatex                             |
| PVC (Polyvinyl Chloride)                      | Versatile plastic is found in soles, synthetic leather, and fabrics coated on shoe uppers.   | Extraction of crude oil causes several problems: spillage at sea, pollution from toxic chemicals, and deforestation. Difficult decomposition.                                 | Bioplastics   |
| PU  | Rigid polyurethane plastic is used in the soles of shoes because of its great durability, flexibility, and abrasion resistance.  |   | Bioplastics<br>Eco TPU<br>Natural Rubber                            |
| TPU (thermoplastic polyurethane)              | Flexible polyurethane plastic is used in the soles of shoes.   |   |   |
| EVA (ethylene vinyl acetate) foam             | Resistant and flexible plastic used in the insoles   |   | Cork<br>Natural latex foam<br>Bloom algae<br>Sugar Cane<br>SpreSole |
| Petroleum Rubber                              | Resistant and elastic, used in the soles   |   | Natural Rubber  |
| ABS (Acrylonitrile                            | Low-cost, easy-to-handle plastic used for making   | Problems in crude oil extraction.   | Bioplastics<br>FSC - certified wood                                 |

|                       |  |                                |  |
|-----------------------|--|--------------------------------|--|
| Butadiene<br>Styrene) | jumps. It has good impact<br>resistance and stiffness. | Product with great resistance. |  |
|-----------------------|--|--------------------------------|--|

Source: Adapted from Better Shoes Foundation (2022).

The lack of systems to reuse footwear raises the production of waste and, consequently, the increase in environmental impact. It is estimated that of all materials used, synthetic materials have a greater impact compared to textiles and leather (Chrobot, 2018). According to Muthu and Li (2021), although leather materials are present in only a quarter of the final product, they have a relevant environmental impact.

The textile industry is ranked as the most polluting industry in the world, due to excessive water consumption, pollutant emissions and waste production (Castro, 2021). According to Muthu and Li (2021), to counteract this trend, it is essential to choose materials with better performance or more sustainable products.

#### *Supply-chain impact*

According to Schwartz (2018), the *supply chain* in the footwear industry starts with product design and ends, after 18 months, with the manufactured product. Currently, we are facing the paradox of production and purchase: products are designed to have a short life cycle with low quality, while demand increases significantly over time (Braglia et al., 2021).

The intensive use of labour in the footwear and fashion industry affects the choice of tangible and intangible resources at the time of production and resource extraction (Chang, 2022). According to the same author, countries with lower costs, such as underdeveloped countries, are prioritized to base production to maximize profit.

When it comes to the time of extraction, the impact of CO<sub>2</sub> emissions is remarkable (Fig. 1). In 2019, the extraction of textile raw materials consumed about 61% of carbon dioxide, along with chemicals. At a later stage in the chain, in the final products, the fashion industry consumed about 85% (World Economic Forum, 2021).

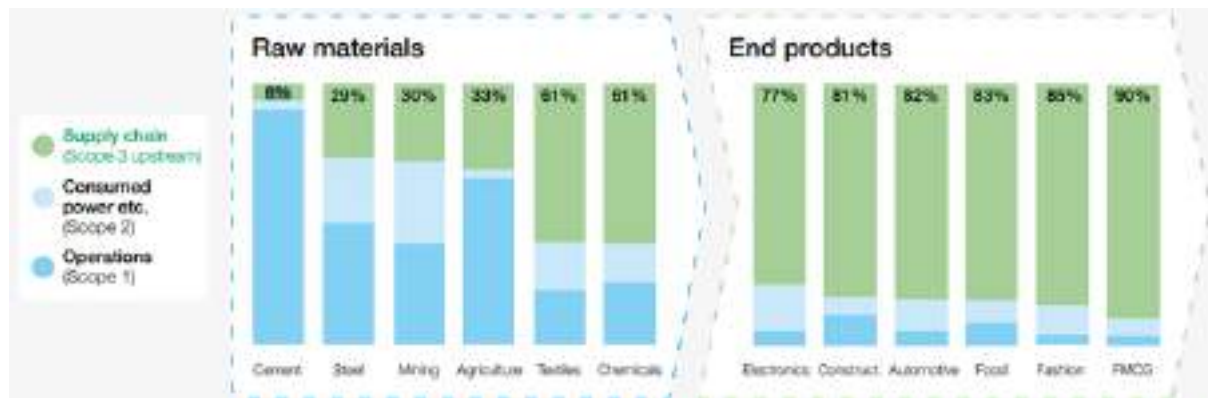


Figure 1: Division of CO2 emissions in selected industries in 2019

Source: World Economic Forum (2021).

According to Chang (2022), the biggest risks suppliers face in choosing where to base production are rising labour costs, national tax policy, tariffs, and exchange rates. In this follow-up, it was in China since 2002 where manufacturing production was centred, including the shoe industry, however, with the Covid-19 pandemic and the 10% increase in tariffs, industries moved to other countries.

There are several solid wastes and residues produced during the footwear manufacturing process. These result from the cutting and processing of materials that are *later* taken to landfills (Silva, 2022). The authors Jadhav and Jadhav (2020) argue that the addition of solid waste from the manufacturing process and the waste present at the end of the footwear life cycle emits toxic gases that pollute the atmosphere and harm the air quality.

According to Brodnjak and Jestratijević (2022) still present is the use of synthetic materials such as polyethylene and polypropylene in the packaging of products, representing a large percentage of solid waste in landfills. These have beneficial properties for organizations, but a negative burden on the environment. It is through innovation and redesigns that organizations can replace them with components that are less erosive to the environment (Ellen MacArthur Foundation, 2022).

#### *Analysis tools*

To analyze the impact of products, organizations have at their disposal several support tools such as sustainability reports, LCA (*Life Cycle Assessment*), adoption of certifications and filtering when selecting suppliers with more sustainable behaviours (Bertoldo, 2022).

Macchion et al. (2020) state that sustainability reports do not have a mandatory link, however, their use conveys transparency to the organizations' *stakeholders*. The *Global Reporting Initiative* (GRI) is the most widely used and its objective is to describe the environmental, social and economic impact of the practices implemented by the company (Global Reporting Initiative, 2022). In addition, it gathers



information about carbon dioxide (CO<sub>2</sub>) emissions, the use of clean energy and other fields present in the Sustainable Development Goals (SDGs) of the United Nations (Bertoldo, 2022).

The other instrument is the LCA, which is fundamental to describe the environmental impact of production taking into consideration the extraction, processing and end-of-life of the product (Chrobot et al., 2018). At the international level, the principles are defined according to ISO 14040 (ISO, 2022). However, Muthu and Li (2021) claim that it is common that producers not to have access to product life process data, making it difficult to write the document.

Macchion et al. (2020) argue that certifications are issued depending on the scope (social, environmental or economic) and purpose, being segmented between management system positions or for a specific product or process. According to the same authors, they are very useful, since they give companies the possibility to choose suppliers with high quality and social and environmental responsibility. Among the various certificates, the *Environmental Product Declaration* (EPD) presents a very important communicational solution, highlighting the environmental performance of the product, segmented according to the rules of the category it belongs to (EPD, 2022).

## FINAL REMARKS

The growth of green entrepreneurship in society reflects human awareness of environmental issues. It is attentive to an improvement in the behaviour of entrepreneurs and, consequently, of companies. The aid of green innovation in the entrepreneurial process changes the current paradigm of prioritizing the company's rewards over the environment.

Currently, there is an effort by individuals to bring processes and product development closer to sustainability using green technology. Although there are no concise results in the literature about the effect of green innovation, we believe that companies are prioritizing it and changing their strategies, even if it is at a slow pace.

The importance of the relationship between green entrepreneurship and sustainability in the business core was noted. It is up to the green entrepreneur to strategize and encourage others to implement and develop sustainable opportunities through the use of available tools and existing gaps.

Even though the footwear industry is improving its *supply chain* choices, they are still betting on cheap and fast production in favour of materials that positively influence the environment, such as organic cotton. Although emerging companies are putting small-scale production and the choice of more durable and ecologically sustainable materials as a priority, it is the *fast-fashion* brands that are the problem.

Although companies have been putting more emphasis on sustainability-oriented CSR policies, they are still insufficient in terms of results. In addition, the documents available to companies, such as the LCA, are still only written by a niche of companies. Consumers, however, are beginning to pay more attention to *eco-friendly* practices by companies and expect an active market stance.

We conclude that several changes are needed, among which are increased consumer demand for the products they buy and their choice of brands; decreased consumption; increased use of reused materials in the production process; and a real behavioural change on the part of companies.

#### *Research limitations*

It is multinational companies that come to the greatest environmental impact, as a result of mass production, hence the focus on brands with great influence in the world market. Although the intent of the research follows a qualitative line, due to insufficient available materials, it was not possible to analyze the Adidas brand, nor to elaborate on the respective comparison with the data obtained in the diagnosis of the industry.

Several international footwear brands were considered in this case study, however, the lack of documentation made it impossible to analyze them. We considered that the study would bring a pertinent component to the research and the present literature; however, we prioritized writing and collecting current data to aid future empirical methodologies on the topic.

Regarding the statistical data present in the article, difficulty was felt in finding data only related to the footwear industry. It is customary to conduct studies on the environmental impact of the fashion industry, encompassing other industries, such as the footwear industry.

#### *Future research lines*

To bridge the gaps in this article and aid future studies, we advise the use of a qualitative methodology identical to the one used in this article, with the addition of a case study. In this, we highlight the use of primary and secondary data, such as the analysis of documents and/or archives of a footwear brand.

It is recommended to replicate the study in companies from different regions/countries; however, with the same size to obtain a concise result close to reality. We consider it appropriate, in the first instance, to evaluate multinational companies and, subsequently, to analyze emerging companies, to be able to perceive the behaviour change.

It is suggested that research related to green entrepreneurship be conducted in various societies, sectors, and industries to understand its impact on the business core and society. Finally, it is advised

that industries follow a more ecological approach, using less environmentally aggressive materials, and prioritizing the maintenance of the ecosystem that directly influences human life.

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# FINANCIAL AND NONFINANCIAL ANNUAL COMPANY REPORT INFORMATION – A BIBLIOMETRIC ANALYSIS

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## ABSTRACT

The aim of the study is to explore the body of research on financial and nonfinancial company report information. A bibliometric analysis is conducted for the topics of earnings management, fraud and sustainability for publication frequency, publication trends on the basis of keywords, as well as author co-citations and journals with a special focus on the affiliation countries Italy and Germany.

In order to achieve desired strategic company goals, accounting managers can purposefully vary the outcomes of financial reports of a company by applying earnings management methods. When the line of legal accounting choices is crossed, the topic of fraud becomes relevant. According to the European Sustainability Reporting Directive 2022/2662/EU, companies of public interest need to include corporate sustainability information into their published annual company report with details on their sustainability efforts. As a consequence, sustainability report information has become an increasingly relevant strategic communication tool in the field of nonfinancial company information.

In a bibliometric analysis, important topics and trends of publications from 2020 to 2023 concerning the key concepts of financial and nonfinancial company reports are examined and relevant keywords in the publications about earnings management, fraud and sustainability concepts are analyzed. This contribution aims at finding out about the current research landscape in the field of earnings management, fraud and sustainability management of a firm by identifying current research trends.

*Keywords: Earnings Management, Fraud, Sustainability, ESG, Bibliometric Analysis, Italy, Germany.*

## INTRODUCTION

The purpose of this bibliometric study is to examine the research landscape and to assess publication and research trends on the topic of financial and nonfinancial company report information, specifically about earnings management, fraud and sustainability.

In the following case study, the objective is to identify current research subject areas based on keywords, to outline relevant journals and authors, and to analyze relevant publication trends in the

academic landscape over time. Based on the results of the bibliometric analysis it could be shown, that the focus from financial information research relevance has been gradually shifting to nonfinancial issues, such as environmental, social and governance aspects, since nonfinancial information has become increasingly important to shareholders, customers and analysts, making sustainability report information crucial for various stakeholder groups and therefore attracting huge attention from academic researchers as well.

Annual sustainability report analysis is a crucial topic in empirical accounting research. In recent years, trust in financial statement information has been reduced due to accounting scandals and fraud, making the topic of corporate accountability increasingly important. Therefore, financial and nonfinancial statement readers need to be able to interpret published information in the context of earnings management and strategic sustainability management publication. Earnings management identification can be useful for investors in order to assess current company performance as well as for making predictions for future firm profitability. When the line between legally permitted and non-permitted accounting tactics is crossed, it is no longer earnings management but fraudulent financial reporting that takes place, which is often leading to huge economical losses in society. Empirical research in this area contributes to financial statement reader awareness in interpreting published accounting numbers. In regards to nonfinancial company reports, on the other hand, the European Nonfinancial Reporting Directive (CSRD) 2022/2662/EU is obliging large companies of public interest to include a non-financial statement in the annual report, thus providing sustainability and accountability information that stakeholders tend to be interested in (see Campra et al., 2020).

## 1. RESEARCH QUESTIONS AND METHODOLOGY

The following research questions are addressed in the bibliometric analysis:

- What are the worldwide accounting research trends in the publication frequency for articles with the keywords “earnings management”, “fraud” and sustainability”?
- What are relevant journals in these three subject areas, for the affiliation countries Italy and Germany?
- What are most co-citated authors in accounting research about financial and nonfinancial reporting for the affiliation countries Italy and Germany?
- What are relevant subject areas in the current accounting research landscape?

The bibliographic database used for the literature analysis is the Scopus database, considering “abstract, title, keywords” for each search of “earnings management”, “fraud” or “sustainability” related articles. The VOSviewer software is used for a visual bibliometric analysis for co-author

citations as well as a co-occurrence keywords of current research trends. For the analysis with VOSviewer, the years 2020-2023 were considered for “earnings management” and “fraud”, and 2021-2023 for “sustainability” related articles. The results have been limited to Italy and Germany for a more specific analysis of the research landscape in these affiliation countries. The number of analyzed documents for the topic of earnings management is 72, for fraud related research 844 documents, and for sustainability, 17451 documents were included in the bibliometric analysis.

## 2. LITERATURE REVIEW

In the beginning stages of empirical accounting research on the theme of accountability of company reports, the topic of earnings management seemed to be in the center of empirical accounting research. In fact, empirical accounting research on the subject matter of accountability of company reports started around the 1980s, when financial company report information, such as earnings management and fraud, were in the focus of attention of empirical accounting research. At that time, there was little or no company reporting about sustainability or nonfinancial information in general, so naturally, accounting research was mostly on financial company information (see table 1).

| Author and year            | Publication title  | Scientific Contribution   |
|----------------------------|--|---|
| Watts and Zimmerman (1978) | Towards a Positive Theory of the Determination of Accounting Standards | Positive Accounting Approach: <ul style="list-style-type: none"> <li>• Bonus Plan</li> <li>• Debt/Equity</li> <li>• Political Cost</li> </ul> |
| Healy (1985)               | The Effect of Bonus Schemes on Accounting Decisions                    | Existence of bonus plans can be a possible explanation for earnings management decisions  |
| Jones (1991)               | Earnings Management During Import Relief Investigation                 | Empirical method for earnings management measurement  |
| Dechow et al. (1995)       | Detecting Earnings Management  | Refined method for empirical earnings management measurement  |
| Dechow et al. (2011)       | Predicting Material Accounting Misstatements                           | Stock and debt market incentives, abnormal reductions of employees can be indicative of misstatements   |

Table 1. *Selected publications on the topic of financial information analysis*

„Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers“ (Healy and Wahlen, 1999, p. 368). The beginnings of systematic earnings management research were marked by the so called positive accounting approach with 3 main hypotheses that were empirically tested and could be often also considered as reflection of the accounting reality at that time. These 3 main research fields that had been described by Watts and Zimmerman (1987) are the bonus plan hypothesis, the debt/equity hypothesis and the political cost



hypothesis. The bonus plan hypothesis states that earnings management might be used to reach a certain bonus plan level. The debt/equity hypothesis predicts that the management is more likely to use income increasing earnings management so that the debt/equity ratio of the company can decrease, for example to avoid a violation of loan contracts. The political cost hypothesis states that large firms rather than small firms tend to use income reducing earnings management. These large corporations sometimes use income decreasing methods in order to reduce attention from regulators or other institutions, and so their so called political costs can decrease (see Watts and Zimmerman, 1990). The study by Healy (1985) discusses in more detail about the effect of bonus plans on accounting decisions, where it could be shown that managers tend to use upward or also downward earnings management, depending on the bonus schemes in a company. The statistical measurement of earnings management is another noteworthy aspect of empirical accounting research. First, the so called Jones Model had been developed by Jones (1991). This model had subsequently been modified by Dechow et al. (1995) to the modified Jones model, which uses a regression analysis to estimate financial earnings management of a company, and which is an accepted method for empirically measuring earnings management until this day (see Capalbo et al. 2014). The study by Dechow (2011) is pointing out practical situations, in which material accounting misstatements might take place and how they can be spotted. The result of this study could show that stock and debt market incentives or abnormal reductions of employees can be indicative of financial misstatements. In more recent literature contributions, the focus of research has shifted to the analysis of nonfinancial information of company reports (see table 2).

| Author and year           | Publication title   | Scientific contribution   |
|---------------------------|---|---|
| Aras and Crowther (2008)  | Governance and sustainability – An investigation into the relationship between corporate governance and corporate sustainability                      | There is a social contract between a business and its stakeholders. There is a shift towards a greater accountability of companies vs. only orientation towards financial results |
| Maglio et al. (2019)      | Exploring sustainable governance: Compliance with the Italian related party transactions regulation for the legal protection of minority shareholders | <ul style="list-style-type: none"> <li>• Italian Context</li> <li>• Sustainable governance and minority shareholder protection</li> </ul>   |
| Campra et al. (2020)      | The engagement of stakeholders in nonfinancial reporting: New information-pressure, stimuli, inertia, under short-termism in the banking industry     | Sustainability and accountability information   |
| Papoutsi and Sodhi (2020) | Does disclosure in sustainability reports indicate actual sustainability performance?   | <ul style="list-style-type: none"> <li>• Sustainability disclosure and sustainability performance</li> <li>• Focus on keywords</li> </ul>   |
| Mazzotta et al. (2020)    | Are mandatory non-financial disclosures credible? Evidence from Italian listed companies  | Empirical construct of “credibility” according to the theory of communicative action, with the categories “truth”, “sincerity”, “appropriateness” and “understandability”.        |

|                        |   |  |
|------------------------|---|--|
| Esposito et al. (2023) | The financial and green effects of cultural values on mission drifts in European social enterprises | Importance of sustainable innovations and sustainable entrepreneurship |
|------------------------|---|--|

Table 2. *Selected publications on nonfinancial (sustainability related) information analysis*

Sustainability can be defined in the following way: “Sustainable development requires meeting the basic needs of all and extending to all the opportunity to satisfy their aspirations for a better life” (United Nations, 1987 p. 54). “Corporate Social Responsibility can be reflected in sustainability governance programs that cover social, environmental and economic activities” (Maglio et al., 2019). The scientific contribution by Aras and Crowther (2008) could highlight, that there might be a social contract between a business and its stakeholders, and that there currently might be a shift taking place towards a greater accountability of companies in areas such as environmental sustainability and social responsibility, and not only an orientation towards financial results. The study by Maglio et al. (2019) analyzes corporate governance systems that can support ESG policies. The study by Campra et al. (2020) emphasizes the need for a stakeholder dialogue in the context of nonfinancial company reports and for transparency regarding sustainability reports, so that the credibility of nonfinancial statements can be increased. Papoutsis and Sodhi (2020) studied sustainability performance of a company on the basis of keywords. Mazzotta et al. (2020) empirically constructed the concept of “credibility” of company reports. Esposito et al. (2023) emphasizes the importance of sustainable innovations and entrepreneurship that simultaneously achieves environmental, social and economic aims in order to be successful in today’s corporate world. Important theoretical approaches that can serve as a motivational basis for financial and nonfinancial accountability information publication are agency theory, stakeholder theory and legitimacy theory. According to agency theory, managers tend to act opportunistically and there is a need for monitoring mechanisms that reduce information asymmetry, such as annual financial and nonfinancial statements, as well as certain corporate governance characteristics which can protect shareholder interests. Similarly, stakeholder theory is focusing on the necessity of companies to meet the needs its of stakeholders. Legitimacy theory, on the other hand, highlights the importance of societal acceptance as a prerequisite of a company’s survival, and states that the survival of an organization depends on whether it operates in a socially acceptable way. Legitimacy can be defined as a “generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within the same socially constructed system of norms, values, beliefs and definitions” (see Suchman, 1995, p. 574). In fact, the challenge for companies in today’s world is to balance environmental and economic organizational principles, which requires skilled management capabilities in order to make a company competitive while also having environmental and social goals (see Esposito et al. 2023, p. 2; see Esposito and Dicorato 2020, p. 6), both in the short- and in the long term perspective (see Campra et al. 2023, p. 1).

### 3. RESULTS OF BIBLIOMETRIC ANALYSIS

In figure 1, the publication trends of earnings management and fraud related articles worldwide are presented.

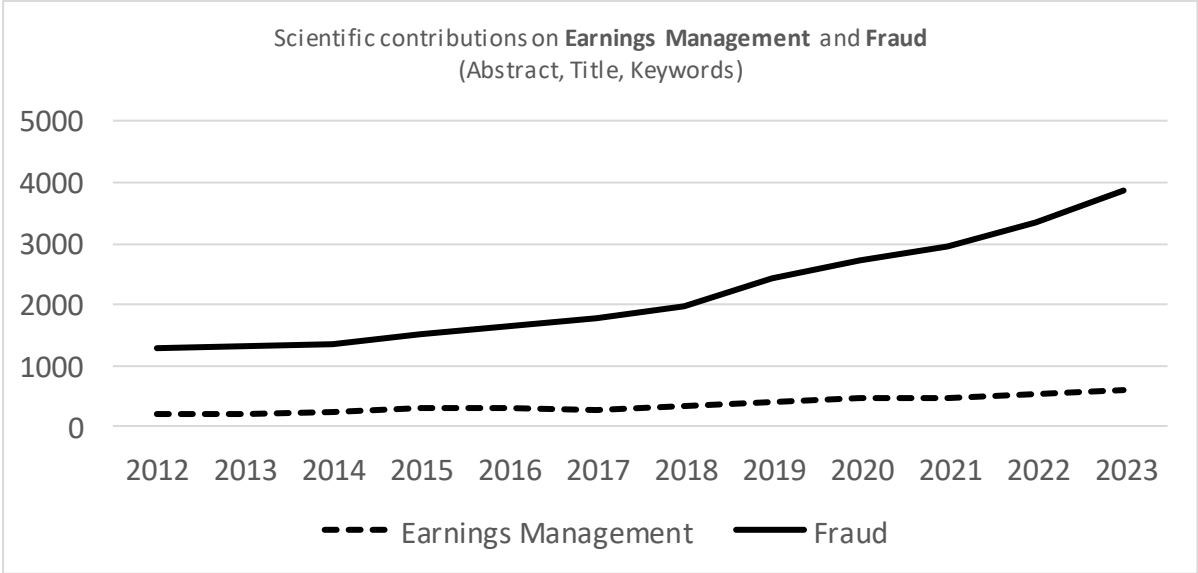


Figure 1. Number of scientific publications on “earnings management” and “fraud” worldwide from 2012-2023, based on data from Scopus (2024)

In figure 2, the growing trend of sustainability related publications from 2012-2023 is visible. With the introduction of the European Non-Financial Reporting Directive (NFRD) 2014/95/EU on sustainability, which obliged large companies to publish sustainability reports beginning from the year 2017, a huge increase in the publication of sustainability related articles could be observed (see figure 2).

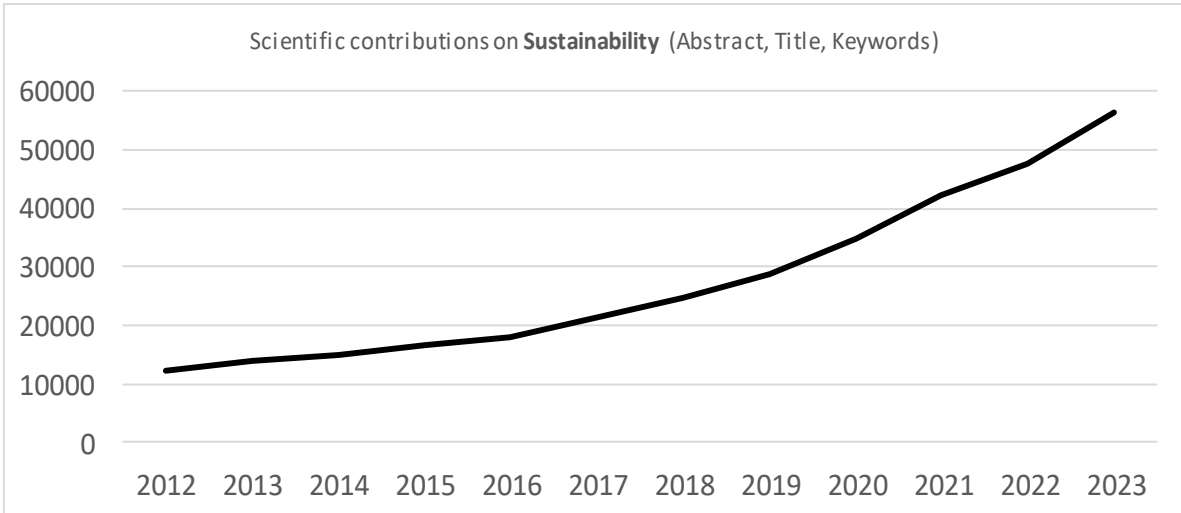


Figure 2. Number of scientific publications on “sustainability” worldwide from 2012-2023, based on data from Scopus (2024)

In figure 3, relevant journals in the field of “earnings management” and in figure 4, fraud related

articles in the years 2017-2023 are outlined, for the affiliation countries Italy and Germany. The publication numbers with the abstract keyword “earnings management” and “fraud” are generally not very high, with under 5 publications per year on this topic. Relevant journals for earnings management related articles are “Rivista Italiana di Ragioneria e di Economia Aziendale” with 4 publications in 2020 for earnings management related articles. Another relevant journal in this subject matter seems to be “Accounting Europe” with two publications on earnings management in the year 2023 (see figure 3).

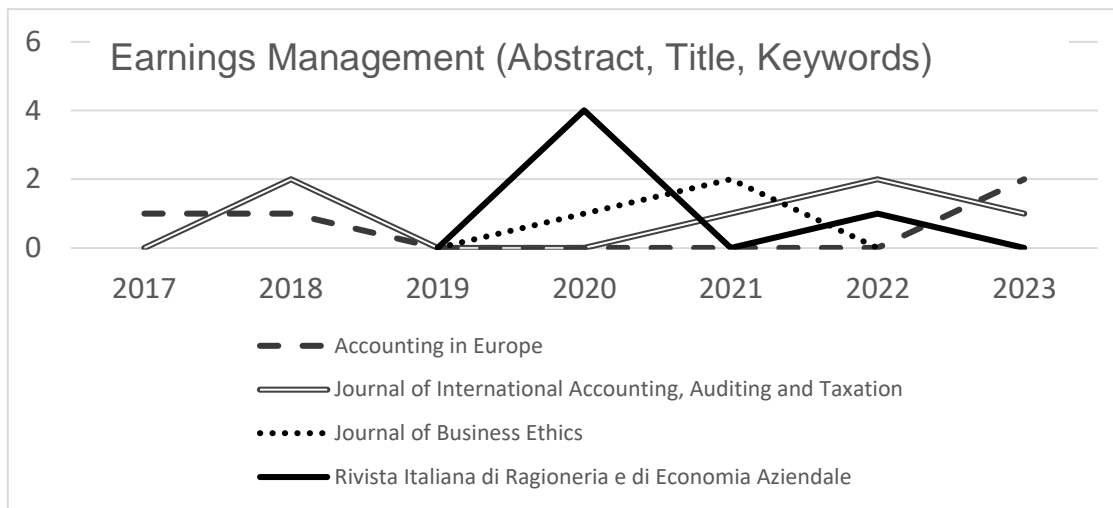


Figure 3. Publication Analysis on “Earnings Management” from 2017- 2023, limited to affiliation countries Italy and Germany, based on data from Scopus (2024), search code: TITLE-ABS-KEY( “earnings management” ) AND PUBYEAR > 2016 AND PUBYEAR < 2024 AND ( LIMIT-TO ( AFFILCOUNTRY , “Italy” ) OR LIMIT-TO ( AFFILCOUNTRY , “Germany” ) )

Relevant journals for “fraud” related articles for the affiliation countries Italy and Germany seem to be “Journal of Business Ethics”, “Journal of Business Economics”, as well as “European Accounting Review”, which published up to two articles per year since 2020 (see figure 4).

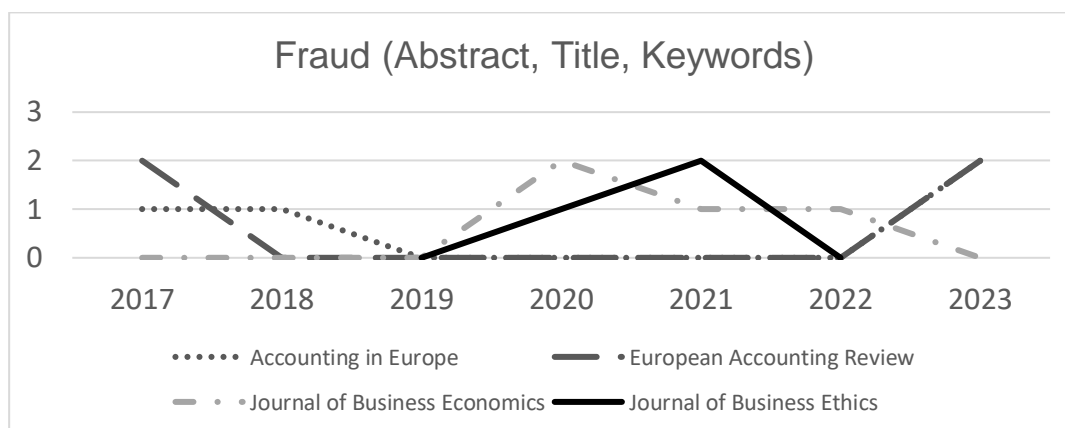
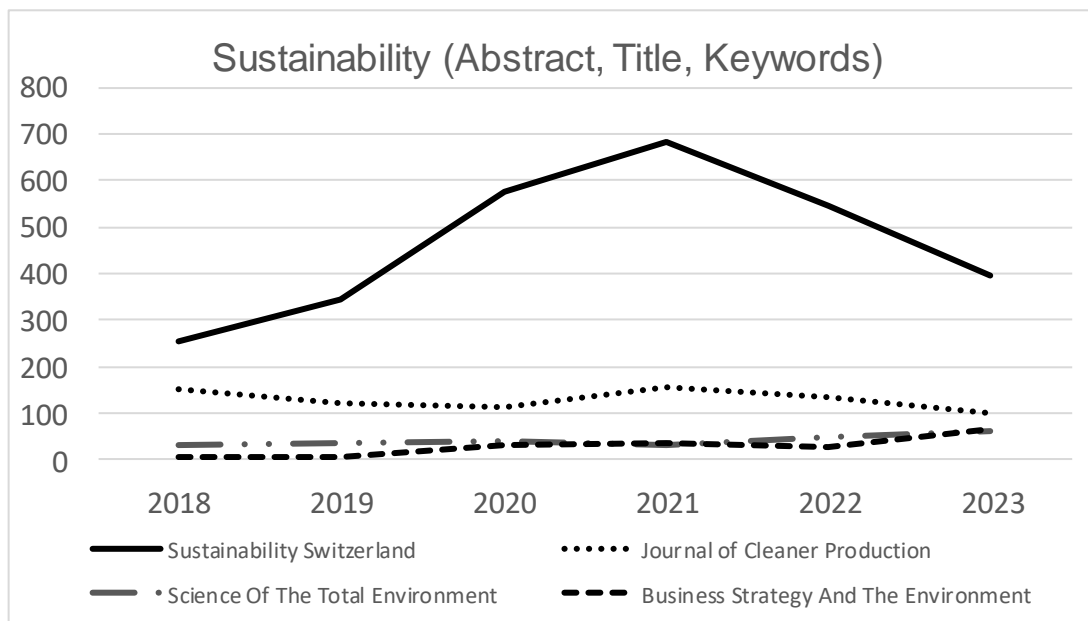


Figure 4. Publication Analysis on “Fraud” from 2017- 2023, limited to affiliation countries Italy and Germany,

based on data from Scopus (2024), search code: TITLE-ABS-KEY ( fraud ) AND PUBYEAR > 2016 AND PUBYEAR < 2024 AND ( LIMIT-TO ( AFFILCOUNTRY , "Italy" ) OR LIMIT-TO ( AFFILCOUNTRY , "Germany" ) )

Figure 5 shows different journals with publications on "sustainability" in the years 2018-2023, showing the leading position of the journal "Sustainability Switzerland" concerning the number of publications on this topic for this timespan, with a maximum occurrence of over 600 publications in the year 2021, followed by "Journal of Cleaner Production" (see figure 5).

Figure 5. Publication Analysis on Sustainability from 2018- 2023, limited to affiliation countries Italy and



Germany, based on data from Scopus (2024), search code: TITLE-ABS-KEY ( sustainability ) AND PUBYEAR > 2017 AND PUBYEAR < 2024 AND ( LIMIT-TO ( AFFILCOUNTRY , "Italy" ) OR LIMIT-TO ( AFFILCOUNTRY , "Germany" ) )

In Figure 6, co-cited authors on the topic of earnings management from 2020-2023 are presented, for the affiliation countries Italy and Germany, showing that the majority of co-citations seem to occur for Italy-affiliated authors.

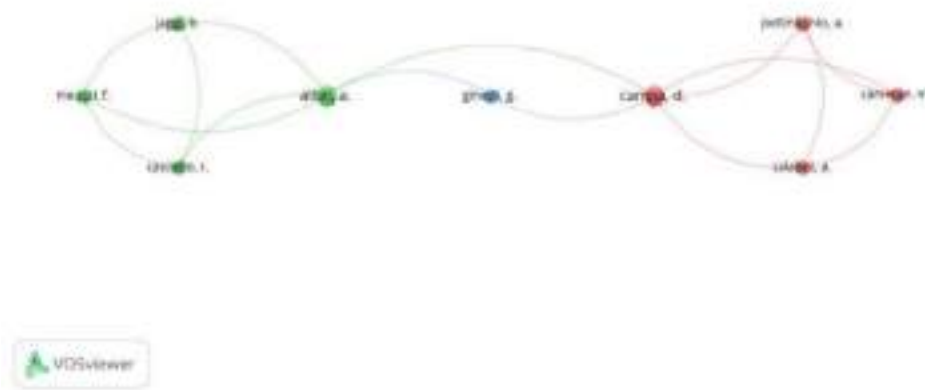


Figure 6. Author co-citations with publications on Earnings Management from 2020- 2023, limited to affiliation countries Italy and Germany, obtained with VOSviewer (2024), based on data from Scopus (2024)

In figure 7, relevant keywords and topics of earnings management related articles are outlined. The topics internal control, reviews, abnormal audit fees and quality seem to be relevant in the current research about earnings management, for the affiliation countries Italy and Germany (see figure 7).

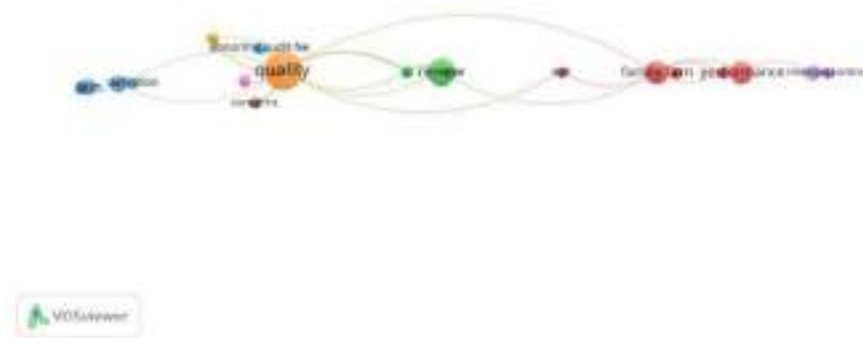


Figure 7. Co-occurrence keyword analysis of publications on “earnings management” from 2020- 2023, limited to affiliation countries Germany and Italy, obtained with VOSviewer (2024), based on data from Scopus (2024)

In figure 8, the co-occurrence of keywords of fraud related articles is presented. It is immediately visible that the topics of “fraud detection” and “crime” are the center of academic attention in this subject area (see figure 8). According to the image, “artificial intelligence” seems to be of interest for fraud detection as well.

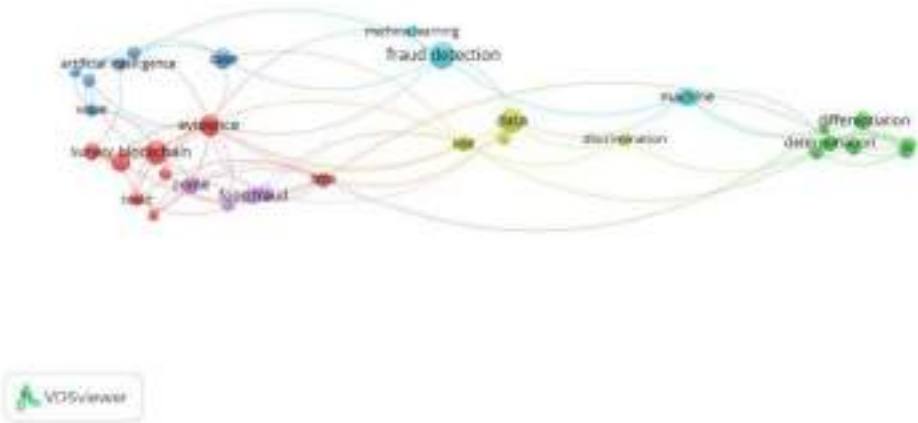


Figure 8. Co-occurrence keyword analysis *Fraud* publications from 2020- 2023, limited to affiliation countries Germany and Italy, obtained with VOSviewer (2024), based on data from Scopus (2024)

In figure 9, relevant authors of sustainability related articles from 2021-2023 are presented.

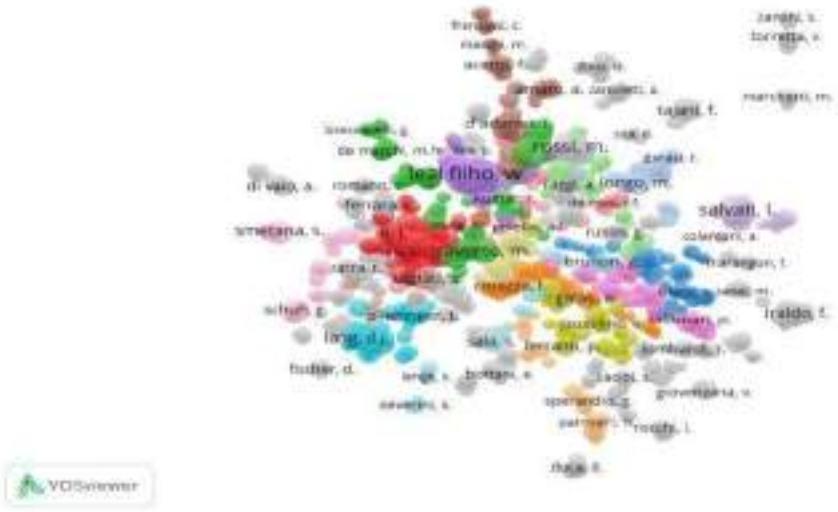


Figure 9. Author co-citations on “sustainability” related publications from 2021- 2023, limited to affiliation countries Germany and Italy, obtained with VOSviewer (2024), based on data from Scopus (2024)

In figure 10, the co-occurrence map of keywords of sustainability related articles with the affiliation countries Italy and Germany is visible. Frequent topics of interest seem to be sustainable development, waste, life cycle assessment, circularity, resilience and the consideration of the supply chain in sustainability reporting (see figure 10).

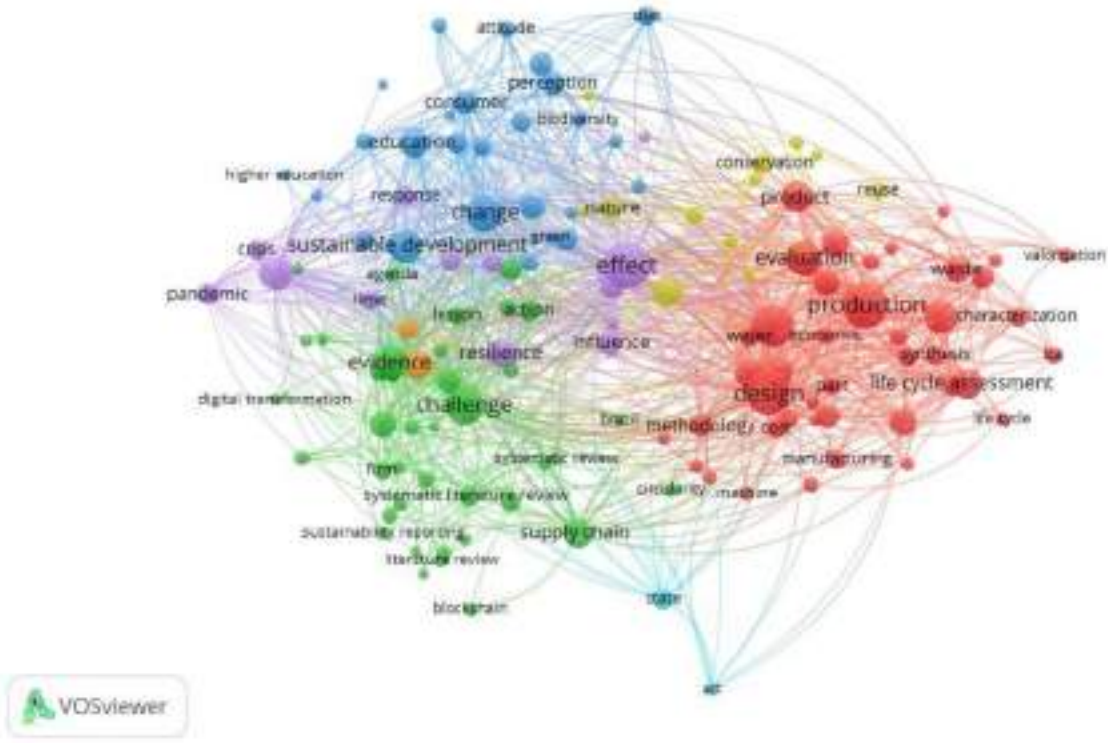


Figure 10. *Keyword co-occurrence analysis on Sustainability from 2021- 2023, limited to affiliation countries Italy and Germany, obtained with VOSviewer (2024), based on data from Scopus (2024)*

**4. CONCLUSION**

The literature analysis could show that the academic focus on earnings management and discretionary accruals based studies has been gradually changing to an emphasis on nonfinancial information based studies. Even though there still seems to be a growing trend in earnings management and fraud related articles, it is the theme of sustainability related articles that currently seems to be a “hot topic” in the accounting and accountability research field, whereas, earnings management and fraud related publications seem to have become a “niche” topic.

Academic publications on the topic of earnings management identification and prediction seem to provide useful insights in regards to the interpretation of the current economic position of a company and future profitability prediction when reading financial company information, especially from the point of view of shareholders who are considering their investment decisions. Moreover, the literature review could show, that the topic of accountability and credibility of financial and nonfinancial information is currently a relevant research stream for practitioners and researchers alike, which emphasizes the need for more empirical studies in this field.

The earnings management keyword analysis could reflect the importance of internal controls, reviews



and audits. Moreover, a co-occurrence keyword analysis could show that fraud related articles tend to focus on crime, fraud detection and artificial intelligence. The keyword analysis of sustainability related publications suggests that the whole supply chain needs to be considered when reflecting on sustainability policies. Other keywords, such as life cycle assessment, circularity, waste and water, highlight the relevance of waste and water management systems.

In conclusion, the topic of accountability and credibility of company reports, which is constructed of both, financial and nonfinancial information, seems to be a highly relevant topic from an academic, political, societal, managerial and shareholder point of view, which emphasizes the need for more empirical studies in this field, and for an integrated analysis of financial as well as nonfinancial annual company report information.

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## ECOSYSTEMS IN LIFE SCIENCES: A BIBLIOMETRIC ANALYSIS

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### ABSTRACT

The importance of ecosystems has been known in the literature for many years. There are numerous definitions of ecosystems, especially if we include within them all the possible connections from the varied forms of aggregation and collaboration between companies, research centres, territories and much more. In recent years, also due to the recent pandemic, there has also been a growing interest in life sciences and the entire supply chain linked to it. This obviously includes not only research and production, but also all the players who have proven to be fundamental for the entire system. Following this growing interest and with the aim of identifying the areas and themes of greatest interest that have emerged in relation to what has been described above, we have decided to analyse, through a bibliometric analysis, academic publications in the business and management area.

*Keywords: Ecosystems, Life Science, Innovation, Bibliometric Analysis, Review.*

### INTRODUCTION

The study of ecosystems, districts, clusters and all agglomerations, formal and informal, with repercussions on different industrial sectors, has attracted the attention of scholars for many decades (Moore, 1993). This is certainly also due to the birth of places, physical and otherwise, and the development of territorial realities in which the factor of "decentralized social ties" and "informal links" had become decisive and a source of advantage for all the actors involved (Saxenian, 1994). The phenomenon of ecosystems, however, is not only linked to physical aspects and geographical proximity, but there are also digital ecosystems (Senyo et al., 2019) or those linked to mutually dependent relationships (Iansiti and Levien, 2004; Oh et al., 2016), or even those that concern entrepreneurial ecosystems (Spigel, 2017). Analysing the numerous scientific articles concerning ecosystems, in its broadest sense, it is possible to notice how reference is often made to the importance of the "network", especially when analysing business aspects (Jocovski et al., 2020).

Although there are many sectors affected by the presence of ecosystems, our particular interest concerns the life sciences. Within the focus on ecosystems and life sciences, there are various aspects analysed by scholars. In this regard, trying to identify the most interesting areas, there are some that analyse the involvement of technology, therefore proposing a focus on innovation (Casper, 2007),

while others focus on business accelerators (Kulkov et al., 2021), but all the works just mentioned have the life sciences as their reference sector.

According to some scholars, the role of institutions is also important (e.g. Carayannis and Campbell, 2009) or in any case of research bodies or universities that can stimulate technological transfer and therefore the birth of ecosystems (Good et al., 2019) or networks in which managers, scientists and practitioners are involved (Casper and Matraves, 2003).

Given the importance that both ecosystems assume in business and the role they play in the life sciences sector, we believe that it is important to analyse the studies published in the area of business, management, and marketing in this regard. The objective of this research is therefore to analyse the issues on which they focused and the development that has taken place over time, therefore before, at the same time and after the COVID 19 pandemic, of the works published in this regard.

## METHODOLOGY

Considering the objective of the research, like many similar works, we opted for a bibliometric analysis (e.g. Casprini et al., 2020). We performed a bibliographic coupling analysis using the VOSviewer 1.6.19 software (Van Eck and Waltman, 2010). Data were acquired via SCOPUS, as it was deemed the appropriate database for this research. The keywords, on the other hand, were taken by obtaining all the definitions of Ecosystems and Life Science from the literature reported above, trying to have as broad an approach as possible, thus inserting all the words that could be reconsidered within this meaning.

TITLE-ABS-KEY ( ( ecosystem\* OR cluster\* OR network\* OR ( informal AND link\* ) OR ( ( informal AND social AND ( tie OR ties ) ) OR ( informal AND ( tie OR ties ) ) ) OR ( informal AND link\* ) OR district\* OR cluster\* OR communit\* OR incubator\* OR ( population AND ecology ) OR ( business AND relationship\* ) OR accelerator OR technopole OR technopark OR ( scien\* AND park ) OR ( research AND park ) OR catapult OR ( innovation AND lab\* ) OR ( living AND lab\* ) OR ( spatial AND agglomeration ) OR proximity OR ( regional AND innovation AND system\* ) OR ( national AND innovation AND system\* ) OR ( area\* AND of AND innovation ) OR ( business AND innovation AND ( center OR centres ) ) ) AND ( ( ( life AND science\* ) OR biotec\* OR pharma\* OR \*pharma OR chemi\* OR biopharma\* OR med\* OR telemedic\* OR \*medicine OR ( medic\* AND devic\* ) OR ( medic\* AND tech\* ) OR biomed\* OR elettromed\* OR health\* OR \*health OR ( precision AND medicine\* ) OR cosmeceutic\* OR cosmetic\* OR nutraceutic\* OR nutrac\* OR ( laborator\* AND ( analy\* OR clinic\* ) ) OR diagnostic\* OR bioinformatic\* OR bioelectronic\* OR genomic\* OR biotechnolog\* OR biopharmaceutical\* OR diagnostic\* OR ( medical AND devic\* ) OR ( wireless AND health AND care )

OR optic\* OR drug\* OR wellbeing ) ) AND PUBYEAR > 2018 AND PUBYEAR < 2024 AND ( LIMIT-TO ( SRCTYPE , "j" ) ) AND ( LIMIT-TO ( SUBJAREA , "BUSI" ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) )

The timespan considered covers the last 5 years, since it has been considered the most relevant period during which we had the possibility to include recent publications about ecosystems in Life Science both before, during and after the COVID-19 pandemic. The number of documents obtained was 21,688.

## RESULTS

Interesting results emerged from the analysis carried out. We start from the country the authors belong to and from the relationships that emerge, proposing in figure 1 the density relating to co-authorships and the related countries. The figure shows how United States, India, China, Italy and other European countries (France, Germany, and Spain) represent the major nodes of these relationships. However, we note how the phenomenon has extended to all continents and to most countries, signifying the diffusion and importance of ecosystems and life sciences on a global level.

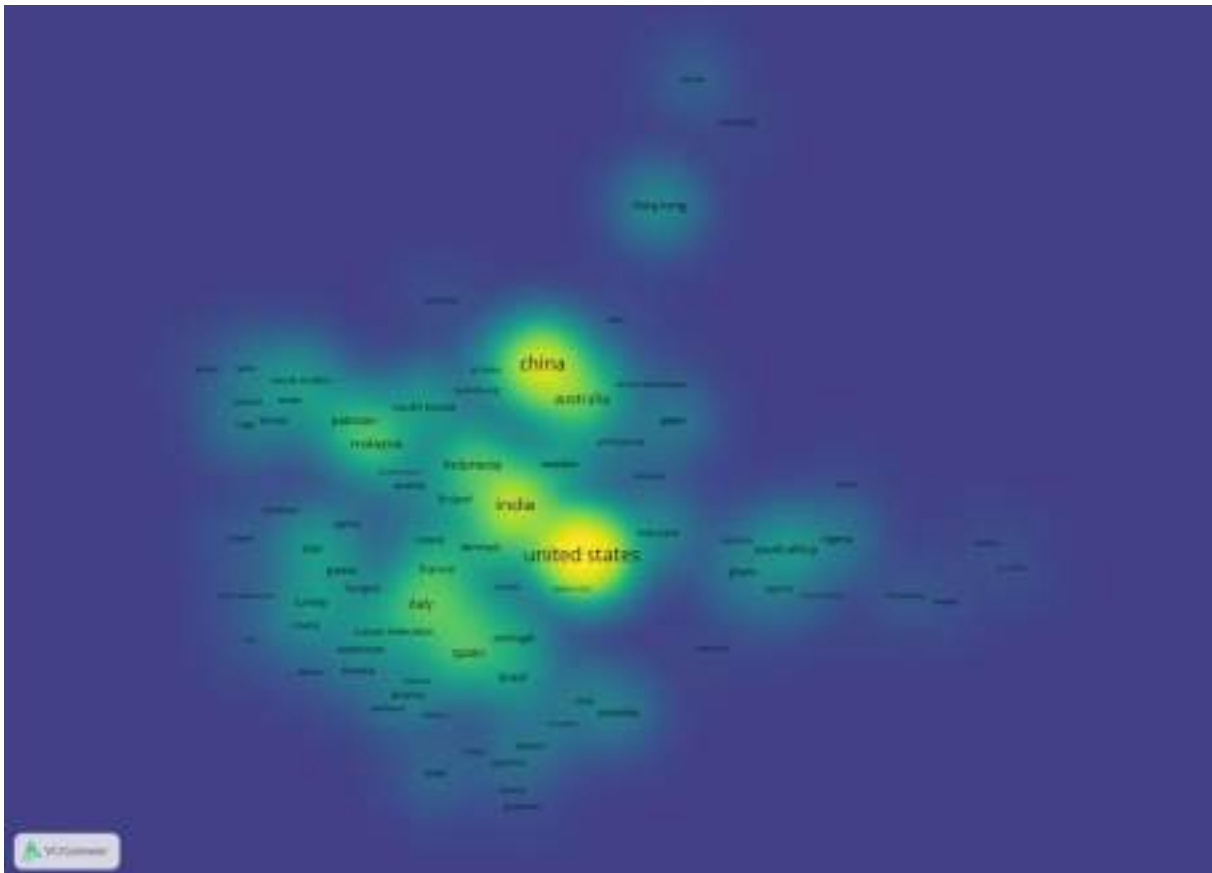
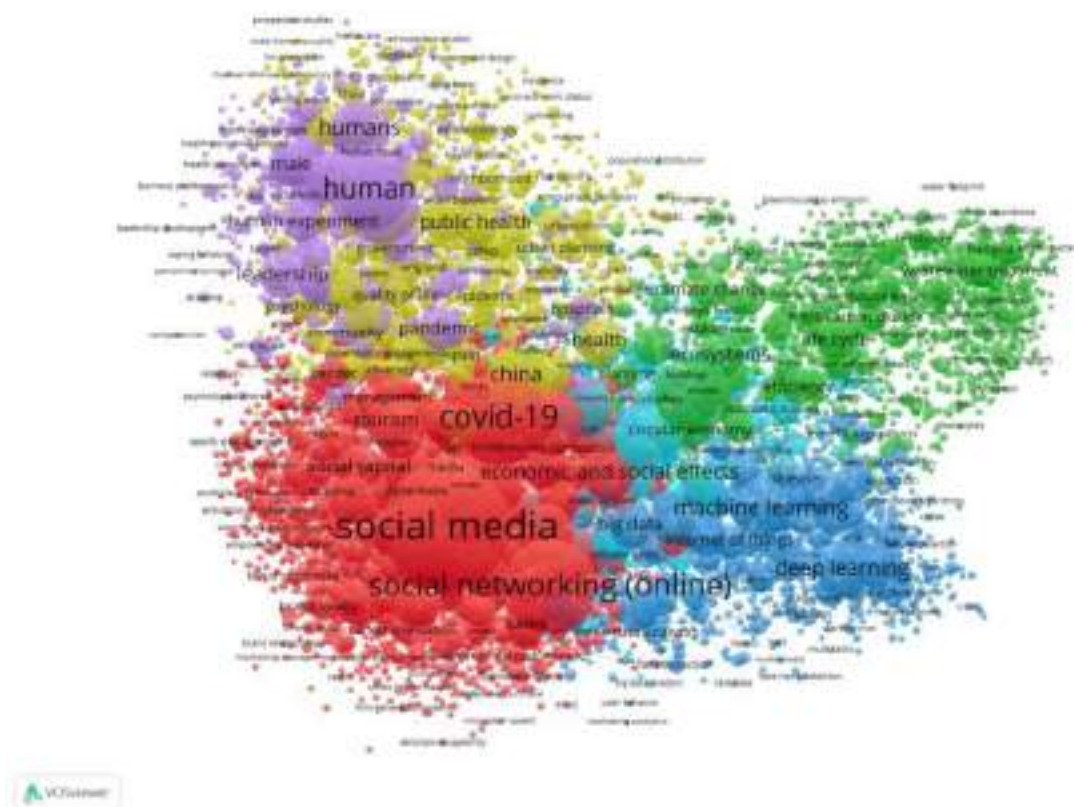


Figure 1: Authors' co-authorship country of provenance - density (Source: Authors' elaboration).

We then analysed the recurring keywords. It is interesting to notice that, amongst the most cited keywords, there are: managerial implications, competitive pressure, policy development, home health care, digital innovations, innovation management, entrepreneurial action, social network, sustainable development, humans, as well as many technologies and, obviously, Covid-19.

Finally, we performed the bibliographic coupling analysis. This helped us in clustering documents in thematic groups that emphasise. 11 clusters were identified and reported in Table 1. Bibliographic coupling is reported in Figure 3.

Figure 2: *Keywords co-occurrence (Source: Authors' elaboration).*



| Cluster | colour     | N°   | time        | Main articles  | main topics   |
|---------|------------|------|-------------|--|---|
| 1       | Red        | 5664 | 2019 - 2023 | Benitez et al. (2020); Hermes et al. (2020); shaikh and levina (2019)  | Factors that lead to the creation and evolution of the ecosystem and that allow it to be governed and organised |
| 2       | Green      | 2032 | 2019 - 2023 | bacon et al. (2019); Panetti et al. (2020); Xin et al. (2023); jiang ret al. (2022); Xu et al. (2022); Xie and Wang (2021) | Business models, innovation ecosystems, knowledge transfer  |
| 3       | Blue       | 980  | 2019 - 2023 | Gardiazabal and Bianchi (2021); Schiavone et al (2020)   | Value co-creation   |
| 4       | Gold       | 903  | 2019 - 2023 | Moliner-tena et al. (2023)   | corporate social responsibility   |
| 5       | Violet     | 451  | 2019 - 2023 | Chaudhuri et al. (2023)  | Human capital   |
| 6       | Light blue | 338  | 2019 - 2023 | Wei et al. (2021)  | Digital and platforms   |
| 7       | Orange     | 164  | 2019 - 2023 | Sharma et al. (2022); Dittes and Smolnik (2019)  | Collaboration, supply chain and ecosystems  |
| 8       | Brown      | 72   | 2020 - 2023 | Ozcan and Hannah (2020)  | Digital technologies and ecosystems   |
| 9       | Pink       | 16   | 2019 - 2022 | Lyashenko and Pidorycheva (2019)   | Technologies and communications   |
| 10      | yellow     | 14   | 2019 - 2022 | Deutsch et al. (2022)  | Performances  |
| 11      | grey       | 14   | 2019 - 2022 | Kuchenmüller et al. (2022); Atinga et al. (2019)   | Influencing and critical factors of ecosystems  |

Table 1: *Bibliographic coupling clusters* (Source: Authors' elaboration)

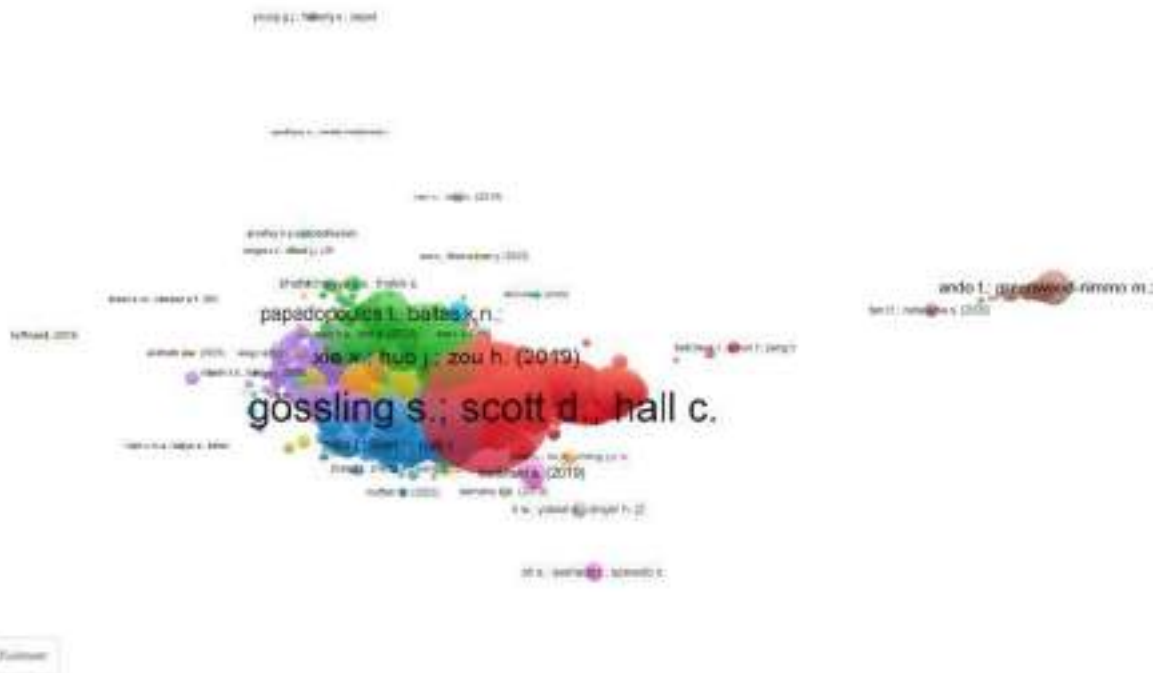


Figure 3: *Bibliographic coupling* (Source: Authors' elaboration).

From the bibliometric analysis we can identify that there are multiple aspects that are analysed by the literature. In the grouping process it was decided to identify the most significant aspects highlighted by the articles present in each cluster. Therefore, the following macro-categories emerged:

- Factors that lead to the creation and evolution of the ecosystem and that allow it to be governed and organized.
- Business models, innovation ecosystems, knowledge transfer
- Value co-creation
- corporate social responsibility
- Human capital
- Digital and platforms
- Collaboration, supply chain and ecosystems
- Digital technologies and ecosystems
- Technologies and communications
- Performances



- Influencing and critical factors of ecosystems

From the cluster analysis it emerges that there are recurring aspects common to many other researches. However, we note how scientific works are instead going in the direction of understanding how ecosystems and the various forms they can take can modify otherwise consolidated structures and organizations. An example of this is the first studies on business models linked to ecosystems.

## **CONCLUSIONS, IMPLICATIONS AND LIMITATIONS**

From the analysis of the results, it emerges that the topic of ecosystems in the life sciences sector is acquiring ever greater relevance, both for the interesting theoretical findings and for the importance it also has for practitioners. From the academic side, interesting research ideas concern the impacts that the creation, development, and boost of ecosystems has on various organizational and managerial aspects. Among these we can highlight the impact in the definition of business models, in technology transfer models, the process linked to the transmission of tacit and explicit knowledge, the use of technology and the advantages it brings both internally and in relationships between companies.

This analysis of the academic literature has useful implications for managers as it offers them interesting food for thought. First, ecosystem management is focal, therefore system logics become prevalent compared to corporate logics. Second, new technologies are changing the way businesses interact and therefore changing the relationships within ecosystems and the structure of the ecosystems themselves. Third, sustainability is increasingly a predominant factor even at an intra-company level. Environmental, social and economic sustainability is increasingly being discussed also in relation to interactions between companies. Finally, the topic of policies, which still today represent a fundamental aspect for the creation, development and propagation of ecosystems.

However, this preliminary research has limitations, although it offers useful help in overcoming them. The first is that it is limited to the last 5 years of publication, while a broader time horizon would be interesting for a better analysis of evolution over time. The results of this research will certainly allow us to refine the interesting aspects, thus focusing interest on what is most worthy of analysis. To avoid a dispersion effect that would jeopardize subsequent literature analysis work on such a complex and vast topic, future work can be based on the outcome of this research. In fact, it will be advisable not to overlook any nuances either regarding ecosystems or the varied sector of life sciences, while avoiding the confluence of works that are too heterogeneous and difficult to schematize within the same analysis. Finally, a final limitation is due to the analysis of the results. Although bibliometric analysis

offers a replicable method, the interpretation of the results is influenced by the subjectivity of the researcher and therefore could be a victim of interpretative distortion.

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# LINGUISTIC STRATEGIES AND GOVERNANCE IMPLICATIONS IN SUSTAINABILITY REPORTING

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## ABSTRACT

This study examines the effectiveness of linguistic strategies in sustainability reporting (SR) and their impact on corporate governance and stakeholder engagement. Using language game theory, the research analyzes 210 sustainability reports from leading Italian firms to determine if their linguistic representations align with sustainability efforts. The findings reveal that while SRs are increasingly adopted to enhance corporate transparency, their effectiveness in communicating genuine sustainability initiatives could be improved. Sector-specific linguistic strategies significantly influence stakeholder perceptions, yet discrepancies between reported efforts and actual practices raise concerns about the credibility of SRs. The study advocates for standardized reporting frameworks to enhance the reliability of sustainability disclosures and suggests that clearer guidelines could better serve stakeholders in evaluating corporate sustainability. This research contributes to understanding the strategic use of language in corporate communications and its implications for governance and stakeholder relations.

*Keywords: sustainability reporting, corporate governance, stakeholder engagement, language game theory, linguistic strategies, Italian firms*

## INTRODUCTION

This study aims to shed light on the effectiveness of sustainability reporting (SR) as a corporate governance tool by investigating whether the language used in SR reflects a standardized common understanding of sustainability actions. Governance for sustainability encompasses the organizational structures, policies, and practices that drive the integration of sustainable principles into business operations (Lozano, 2015; Naciti et al., 2022). Previous studies have demonstrated that corporate governance mechanisms, sustainability actions, and SR are intricately related. Robust and effective governance practices facilitate companies' efforts to set attainable, sustainable goals and are often a guarantee of transparent and full disclosure (Van Beurden and Gössling, 2008; Wang, 2017; Tarczyński et al., 2020).

Among the reasons companies communicate their commitment to sustainability is the growing stakeholder demand for greater transparency on environmental and social issues (Fonseca, 2015). However, despite the best intentions, SR can sometimes serve instrumental interests. Social pressure can make SR perceived as 'mandatory,' 'anticipated,' or 'standard practice' (Powell and DiMaggio, 2012), regardless of whether the company genuinely invests in sustainability.

Examining the quality of SR, there is evidence that the information companies provide in their sustainability reports (SRs) is fragmented, diverse, multidimensional, and rarely standardized. This necessitates unique analysis to transform these reports into mechanisms that disclose the value created and serve as practical governance tools. Within scholarly discourse, the features of sustainability accounting and the structure, content, and language of SR hold considerable significance.

The issue of SRs' content and language is particularly relevant, considering that although regulatory pressures and trends in several authorities push companies to adopt sustainable business practices, their disclosure remains mainly voluntary. Even when an obligation exists, the norm rarely prescribes the document's structure or the use of specific information and language, resulting in each company having its way of disclosing and committing to sustainability.

Given these premises, our study adopts language games theory to explore the effectiveness of SR as a corporate governance tool. Specifically, we investigate whether the language used in SR relies on a standardized common understanding of sustainability actions, effectively communicating companies' efforts in setting and achieving sustainable goals and enabling readers to appraise companies' sustainability strategies.

To achieve our goal, we conduct a content analysis of 210 SRs provided by a sample of 203 large Italian companies recognized as leaders in sustainability for 2023. Our findings, even if preliminary and part of an ongoing work in progress, offer interesting insights, showing both scholarly and managerial implications.

## **LITERATURE REVIEW**

Several studies (Delmas and Montes-Sancho, 2011, Kolk and Perego, 2010, Naciti et al., 2022) highlight that firms with robust solid governance systems are more likely to integrate sustainability into their operations and achieve better environmental and social performance, driving sustainable business practices, and providing a framework for decision-making processes considering environmental, social, and economic dimensions. In this sense, governance for sustainability has mainly been investigated

under the lens of stakeholder theory (Aguilera et al., 2007, Freeman, 2010), agency theory (Dorfleitner et al., 2020), and resource dependence theory (Li et al., 2023), has become a critical field of research.

Specifically, transparency as an attribute of corporate communication refers to the quantity and quality of information available about an organisation such that external parties can monitor its activities and performance (Grimmelikhuijsen et al., 2013). According to agency theory, transparency is crucial in corporate governance mechanisms (Ștefănescu et al., 2021).

Regarding the effectiveness of sustainability accounting and reporting in increasing transparency, scholars express considerable concerns (Adams and Larrinaga-González, 2007). As discussed by Crane and Glozer (2016), the purpose of sustainability accounting and reporting is only sometimes to provide evidence of the impact of corporate strategies. Still, it is often used to achieve specific goals, concerning which sustainability statements are instrumental. Similarly, Montiel (2008) and Schwartz and Carroll (2008) have noted that organisations exhibit diverse interpretations of sustainability and its practical implementation. Sustainability accounting is a means for companies to fulfill their environmental and community-related social and ethical obligations within the contexts where they operate (Owen, 2008). Besides this, it may be used as an unintentional stakeholder management tool instrumental in cultivating trustworthy relationships and shaping behaviour (Coombs and Holladay, 2012; Morsing and Schultz, 2006).

For this reason, the language adopted is particularly relevant to avoid misunderstandings. A deep comprehension of the words, phrases, and content of SRs is essential for evaluating their effectiveness as tools of accountability and governance.

#### *Language game theory*

Language game theory, rooted in the philosophy of language by Ludwig Wittgenstein (1953), focuses on the idea that language is a form of social activity governed by specific rules or games.

Wittgenstein's theory suggests that language and action are deeply intertwined. According to the author, language does not just describe or represent actions; it plays a fundamental role in shaping and influencing actions. In language game theory, the context in which a language develops is critical in defining communication effectiveness. The meaning of words and expressions is context-dependent, and understanding them requires an awareness of the specific language game being played. In this way, language sets the context for action. Wittgenstein argued that language games involve rule-following activities. Understanding the rules of a language game is essential for engaging in the associated actions. Language, therefore, provides the rules that guide and structure actions within a particular context. Wittgenstein proposed the idea that the meaning of a word is found in its use within specific language games.

Research on language games in management studies confirms that the fundamental purpose of the managerial language is to enable practical action. Managers are interested in shaping the functioning of the environment in which they operate instrumentally to their ends. Consequently, the language they use to communicate creates a framework in which organisational life is shaped and reshaped. Astley and Zammuto (1992) state that managers are interested in using language instrumentally to shape the environment according to how they conceive of a given organisational reality.

Although a niche approach, language game theory and linguistic analysis techniques have been used in sustainability and CSR research to understand how language reports environmental, social, and governance (ESG) information.

Several studies have investigated the use of proclaims and language in SR as a greenwashing strategy (Szabo and Webster, 2021, Guo et al., 2017) that can be synthesized as a gap between words and deeds (Laskin and Mikhailovna Nesova, 2022). In 2019, the Task Force on Climate-related Financial Disclosure (TCFD) 's investigation of 1000 companies SRs found that only 29% disclosed decision-useful climate-related financial information (2019).

Moreover, they assert that SR meets the basic information transparency and value relevance requirements. Similar conclusions emerged from Adhariani and Du Toit's (2020) investigation into Indonesian companies. Their research indicates that SRs exhibit a low level of readability, signifying that the disclosed information could be more explicit for the intended users to decipher and comprehend.

Using this theory allows us to investigate the main keywords and themes that emerge from SRs and understand how and why a specific language is used.

## **METHODOLOGY**

To achieve our aim, this study adopted a gap analysis methodology to deeply analyze the SRs and identify the crucial aspects of the language used. Companies convey their unique perspectives on sustainability to external and internal stakeholders through official documentation like SRs, plans, or declarations.

The quantitative content analysis was applied to analyse the articulation and communication of sustainability within the operational context of contemporary sustainability leaders in Italy. The Italian rating for 2023 was just released by Lab24, focusing on 2021 revenues. Our analysis focused on 203 large companies with revenues exceeding 100 million euros included in the mentioned rating.

The analytical capabilities of <https://voyant-tools.org/> were used to determine the top 59 keywords of each SR. Italian and English-language SRs were examined independently. To ensure consistency throughout content analysis phases, identified keywords in English were directly incorporated into further analysis, while keywords in Italian were first depicted and then translated into English. To ensure translation accuracy, the forward-backward translation technique was applied. The collected data was cleaned by removing numbers, articles, question words, prepositions, and frequently repeated but extraneous words. Some plural words were singularised and suffixes were removed.

Linguistic associations were then considered to select terms closely linked to the core sustainability concepts. Words with a Pearson's correlation coefficient of 0.85 and higher were expected to be substantially related to the terms "sustainability" and "sustainable" (in English) and "sostenibilità" and "sostenibili(e)" (in Italian). Additional data cleaning included removing articles, numbers, question marks, prepositions, and non-existent terms. Plural forms were singularised, and suffixes were removed, although no nouns were released in this case, as any correlation would have been intriguing to explore further.

In the final phase, a thematic clustering approach utilizing LLMs use was applied to group sectors based on lists of keywords and associations specific to each industry. The goal was to find common themes and subjects across sectors. Exact word matches were optional for a more abstract and flexible representation of information.

## FINDINGS

According to the Italian sustainability rating, the country's top five sustainable industries were Energy, Procurement & Raw Materials, Banks, Industrial Products & Components, Finished Products & Consumer Goods, and Food & Beverages. Italian ratings remarkably track global sustainability trends, except for the telecommunications and pharmaceutical industries, which rank in the top 10 of the Global 100 list of the most sustainable businesses worldwide. Notably, Fiorini International Italia stood out as the sole company among 203 not to submit an SR through any available channels. Among the materials examined, 25.00% were exclusively provided in Italian without an accompanying English version. "Work, training, sustainable, management, health, environment, energy, employees, development, business, and activity" are common keywords in all 16 sectors. Furthermore, popular keywords include "safety, risk, people, information, and emissions" (found in 15 out of 16 industries), as well as "value, social, and compliance" (14 out of 16 sectors). The word cloud shows 50 phrases strongly related to the terms "sustainability" and "sustainable," with a Pearson's correlation coefficient



of at least 0.85. Common linguistic patterns in the thematic clustering research of sixteen different business sectors revealed seven coherent clusters with a shared sustainability perspective.

#### *Cluster 1*

Cluster 1 concentrates on environmental, social, and governance (ESG) elements and risk management and unites Banks, General Services & Insurance, Financial Services, Investment Holding, & Asset Management. Keywords like "climate, emissions, environment, and initiatives," which highlight congruence with SDG 13, demonstrate a thorough grasp of environmental issues. "Sustainability, employees, training, and development" aligns with decent work and economic growth within SDG 8 and highlights the commitment to ethical business practices. Moreover, recognizing social consequences, expressed through words like "social, impact, health, safety, women, and men," resonates with SDGs 3 and 5.

A closer look at terms strongly linked to "sustainability" and "sustainable" provided further details about the cluster's sustainability strategy. "ESG, SDGs, and SFDR" (Sustainable Finance Disclosure Regulation) are closely related to the responsible business practices covered in the sustainability documents.

#### *Cluster 2*

Cluster 2 focuses on resource management, employee well-being, and environmental sustainability through the sectors of Beauty, Personal Care & Healthcare, and Catering & Ho.re.ca. Keywords strongly aligned with SDG 12 include "environment, sustainability, energy, and waste," indicating a commitment to minimize the environmental impact of business activities. Under "employees, training, and safety," workforce development and safety are prioritized (SDG 3).

In the domain of sustainability associations, the frequent use of terms like "plan, element, ecosystem, and directive" in connection with "sustainability" suggests a significant focus on careful planning and implementation.

#### *Cluster 3*

Cluster 3 is focused on product-centric sustainability, environmental management, and employee well-being. It includes Finished Products & Consumer Goods, Fashion, and Wholesale & E-commerce industries. Keyword analysis emphasizes material selection, waste minimization, and energy efficiency in production operations, focusing on responsible resource use (SDG 12). Cluster 3's sustainability-associated words indicate a recurring focus on "financial, agenda, stakeholders, SDGs, business, brand,

and global," underscoring the significance of involving stakeholders, connecting with the SDGs, and incorporating sustainability into fundamental business operations while creating sustainable brand identities.

#### *Cluster 4*

Cluster 4 combines the following industries: Energy, Procurement & Raw Materials, Industrial Products & Components, Transportation, Logistics & Automotive Supply Chain, Chemistry, Pharmaceuticals, Waste Disposal, & Recycling. According to the keyword analysis, the cluster prioritizes personnel development, energy efficiency, and environmental management. With terms like "environment, climate, safety, risk, and emissions," the emphasis is on minimizing the environmental impact and protecting employees' health. Consistent with SDG 17, emphasizing "governance, compliance, stakeholders, board, and control" stresses the value of stakeholders' interests and effective governance frameworks. In addition, considering "business, development, innovation, production, process, taxonomy, network, and systems" suggests a comprehensive strategy for sustainability that includes planning, working together, and streamlining procedures consistent with SDG 9.

#### *Cluster 5*

Telecommunications & Media and Technology & IT are combined in the rapidly evolving High-Tech. Cluster 5 illustrates how environmental responsibility, staff development, and risk management are strategically prioritized in the sustainability documentation analysis. The terms "environment, emissions, energy, waste, economic, consumption, and value" reflect an awareness of business activities' economic and environmental implications and the need for responsible resource consumption, which is highly compatible with SDGs 7, 12, and 13. Keywords "customer, service, suppliers, and stakeholders" demonstrate the sustained strong relationships that support SDG 17. In addition, the focus on "employees, development, training, safety, health, social, people, and women" highlights the cluster's commitment to staff's well-being, consistent with SDG 8.

#### *Cluster 6 and 7*

The last two clusters differ from the others and only include one industry. Food & Beverages Cluster 6's sustainability documentation analysis demonstrates that environmental sustainability, supply chain management, and product quality are prioritized. SDG 12 and the cluster's commitment to waste reduction, the use of sustainable production resources, and emission reduction are closely aligned. The cluster's "environment and emissions" consideration aligns with SDG 13, demonstrating a dedication to

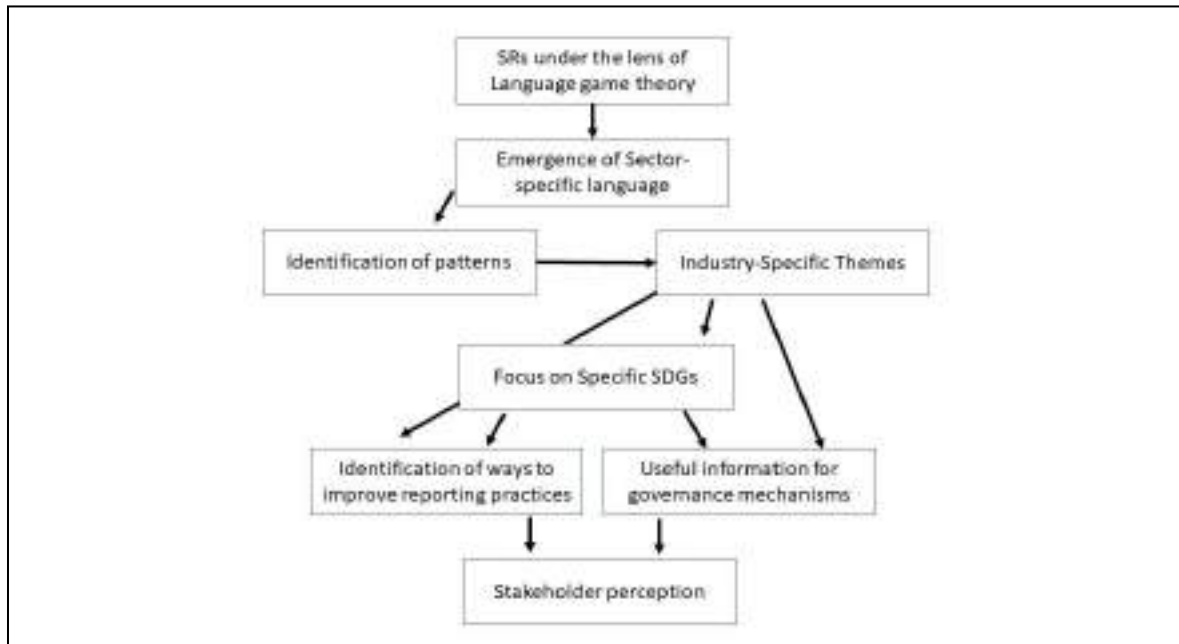
tackling climate-related issues. The emphasis on "production, materials, packaging, and energy" advances industry innovation and sustainability, supporting SDG 9.

Cluster 7 includes the sustainability documentation analysis for Engineering & Construction, underscoring the industry's dedication to risk management, environmental responsibility, and sustainable business practices (Fig.9, left). The industry regularly uses terms like "work, safety, health, and employees," indicating how important it is to improve workplace safety and foster employee growth (SDG 8). Social factors are also considered, focusing on the effects on communities and information openness (SDG 11). The cluster's dedication to sustainable practices aligned with SDG 12 is evident in waste reduction, effective use of resources, and training initiatives.

## DISCUSSION

This study examined the complex field of SR within large Italian firms identified as the most sustainable for 2023, focusing on the relationship between SRs and corporate governance practices. The findings reveal a varied but dispersed approach to SR. Notably, the results demonstrate significant differences in the focus on sustainability themes across various sectors, exposing a sector-specific strategy towards sustainability issues, as evidenced by the emergence of seven distinct clusters. Each cluster delineates a strategic approach to addressing social and environmental issues, directly or indirectly referencing specific Sustainable Development Goals (SDGs). The findings of this study emphasize the importance of a nuanced and transparent approach to SR for practitioners. Policy-wise, the diversity and fragmentation observed in SR content and language underscore the need for more standardized reporting frameworks. According to our data, some SDGs are either completely omitted from SRs or only given limited attention. While SDGs 5, 10, and 16 are only addressed by one cluster, SDGs 1, 4, 14, and 15 are not covered. Several reasons exist for this discrepancy in SDG coverage, such as stakeholder expectations, corporate agendas, and contextual relevance. However, even though SDG 1 might receive less attention given Italy's comparatively low poverty rates, SDGs 4 and 5 remain crucial despite the country's socioeconomic standing. Figure 1 synthesizes the main findings by introducing an intriguing interpretative model.

Figure 1 - The interpretative model



Source - Authors elaboration

The conceived model builds on the fact that language game theory is the foundational theory that helps to understand the language used in SRs. Analyzing documents under this theoretical lens, the context-dependent nature of language strongly emerges. The study uncovered that specific patterns exist and, in particular, different sectors focus on different and well-defined themes. In other words, the study highlighted the existence of unique themes and strategies used by different industries, which emerge when applying language game rules. Similarly, sector-specific languages and themes elucidate the attention of specific SDGs. This kind of analysis helps improve reporting practices to enhance the clarity and credibility of SRs driven by understanding language patterns, themes, and SDG attention. These insights heavily spotlight how linguistic strategies can affect governance for sustainability in terms of SR and SDG focus. Finally, the proposed model suggests that language is powerful in building or eroding stakeholder trust. In the light of these statements, this study proposes the following propositions.

*Proposition 1:* Applying Language Game Theory to Sustainability Reports (SRs) reveals sector-specific language patterns unique to different industries.

*Proposition 2:* Identifying these sector-specific language patterns facilitates the recognition of distinct themes and focuses on industry-relevant Sustainable Development Goals (SDGs).

*Proposition 3:* By concentrating on specific SDGs, companies can identify actionable ways to improve their sustainability reporting practices, making them more transparent and effective.

*Proposition 4:* Enhanced sustainability reporting and better governance mechanisms, driven by a focus on specific SDGs, positively influence stakeholder perception, thereby increasing trust and engagement.

## IMPLICATIONS AND LIMITATIONS

This study, even if in progress, shows interesting academic and practice implications.

### *Scholarly implications*

The main contribution of this study is related to the innovative application of language game theory in SR, enriching more traditional approaches (Naciti et al., 2022; Lozano, 2015). This provides new insights into corporate sustainability communication and extends Van Beurden and Gössling's study (2008) by adding subtle nuances to the relationship between governance practice and sustainability disclosure. This study also extends Laskin and Nesova's (2022) findings by highlighting that linguistic strategies in SRs can be sector-driven. The findings uncover the existence of seven different clusters that face sustainability challenges in different ways depending on the sector, with varying attention to specific SDGs.

By applying language game theory to SR, this study advances the theoretical understanding of how language shapes and reflects corporate governance practices. Language game theory, rooted in Wittgenstein's philosophy, suggests that language is a form of social activity governed by specific rules or 'games.' This study shows that the language used in SRs is not merely descriptive but instrumental in shaping stakeholder perceptions and corporate actions. Identifying sector-specific linguistic strategies highlights how different industries employ unique language patterns to communicate their sustainability efforts, providing a richer, more nuanced understanding of corporate sustainability communication.

Additionally, by linking linguistic strategies with governance mechanisms, this study provides a framework for understanding how language in SRs can enhance or undermine the credibility and transparency of corporate governance.

The application of language game theory also contributes to stakeholder theory by highlighting the role of language in managing stakeholder relationships. Effective SR requires not only the disclosure of environmental and social performance but also the use of language that stakeholders can understand

and trust. The discrepancies between reported efforts and actual practices, as identified in this study, raise important questions about the authenticity of SRs and their role in stakeholder engagement. By advocating for standardized reporting frameworks, the study addresses the need for more reliable and consistent communication that can better serve stakeholders in evaluating corporate sustainability.

#### *Managerial Implications*

For practitioners, the findings emphasize the critical role of clear and consistent language in SR. Companies must recognize that stakeholders are increasingly scrutinizing SRs for transparency and authenticity. The study suggests that adopting standardized reporting frameworks can help improve the reliability of SRs, thereby enhancing corporate credibility. Managers should align their sustainability communication with actual practices to avoid perceptions of greenwashing and build trust with stakeholders. The sector-specific clusters identified in the study indicate that different industries face unique sustainability challenges and, therefore, require tailored reporting strategies. Managers should consider these industry-specific insights when developing their SRs to communicate their sustainability efforts effectively. By understanding their stakeholders' linguistic preferences and expectations, companies can craft more impactful sustainability messages that resonate with their audience.

Finally, the study advocates for developing clearer guidelines and standards for SR. Such guidelines should prescribe the structure and content of SRs and emphasize the importance of using language that accurately reflects a company's sustainability actions and goals. By adhering to these guidelines, companies can improve the coherence and comparability of their SRs, making it easier for stakeholders to assess their sustainability performance.

#### *Limitations*

The study's main drawback is its focus on Italian companies, which may restrict the findings' generalizability to other contexts. As these findings are preliminary and part of an ongoing work in progress, further research is needed to explore the evolving role of language in SR across different contexts and time periods.

## **CONCLUSION**

In conclusion, this study highlights the critical role of language in sustainability reporting and its implications for corporate governance and stakeholder engagement. The findings advocate for standardized reporting frameworks and tailored communication strategies to enhance the credibility and transparency of corporate sustainability efforts.

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# DOES CORPORATE REAL ESTATE INVESTMENT MATTER FOR RETAIL COMPANIES? EVIDENCE AFTER THE PANDEMIC

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## ABSTRACT

Corporate real estate (CRE) represents a strategic decision for companies. The retail sector offers a unique opportunity for the evaluation of the CRE strategy due to the relationship between the value of the asset, the location of the site, and the profitability of the firm. The size of the real estate portfolio of retail firms reflects the high frequency of acquisition of existing selling points and the below the average time necessary to sell, even though the advent of technology and the digital transformation of firms is modifying the role and the functions of physical stores.

CRE affects positively the market performance of retail listed firms investing in real estate due to the higher diversification of the assets and the perceived reduced credit risk. Looking at an international sample of listed retail companies, the paper considers the performance of firms and the CRE strategy role in explaining the abnormal return achieved over the time period 2012-2021. Results show that the number of stores is increasing over time, even if the volume of online sales has increased over the last decade. CRE strategy has an impact on the stock market performance for retail companies and during the last decade, showing a better performance for firms that decreased the number of brick-and-mortar stores and increased the volume of sales online. After the pandemic, the overall impact on the performance of the retail companies is found negative, suggesting an even more efficient managing of physical stores.

*Keywords: Corporate Real Estate, Location, Online sales, Abnormal performance*

## 1. INTRODUCTION

Real estate represents a key strategic asset of the firm's balance sheet for all major corporations worldwide (e.g. Zeckhauser and Silverman, 1983) and today it represents a strategic asset for any type of corporation (Roulac, 2001).

The relevance of the corporate real estate (hereinafter CRE) is significantly affected by the sector of activity (Johnson and Keasler, 1993) and the lower is the standardization of assets used the higher will

be impact of an efficient real estate management on the firm's performance (Brounen and Eichholtz, 2005). The value of real estate properties created for a corporation is normally more relevant in the retail sector where revenues are driven by the choice of the selling point location, and the cost of renting/leasing a brick-and-mortar shop is significantly affected by the market trend and the rent perspectives (Ali et al., 2008).

The proper selection of the location allows companies to achieve production capacity and to grant business expansion and better service to customers, increasing the wealth of stockholders, among other things (Mazzarol and Choo, 2003). The retail sector represents a unique opportunity for the evaluation of the CRE strategy because the value of the asset (appraisal value and market price) is significantly driven by the location and the quality/type of other assets available in the same area (e.g. Ownbey, Dabis, and Sundel, 1994) and, on the opposite side, retail capital can determine the value of real estate assets as shown by the gentrification of the areas (Mermet, 2017). In this perspective, real estate decisions can reflect the need to diversify and develop activity or the pure response to the needs of the core business (Nourse and Roulac, 1993): regardless of the effective motivation, real estate must be managed as a part of the firm's overall portfolio coherently with the firm's strategic plan (Rodriguez and Sirmans, 1996). Retail firms are characterised by a high investment in real estate due to the high frequency of acquisition of existing selling points and the below the average time necessary for selling real estate units in that sector (Liow 1995). As a consequence, firms in the retail sector develop greater opportunities to create shareholder value through their portfolio of real estate assets. Such opportunities refer to the exercise of valuable development options, the exploitation of market information generated within the retail operations, and the utilisation of well-developed retail real estate expertise. Main retail groups have already developed strategies in order to define their real estate investment strategy for supporting the business and maximise the potential benefits related to the investment planning on the long-term horizon (Gibson and Barkham, 2001). Moreover, the retail sector seems to be one of the most relevant sectors on CRE due to the reputation advantages expected by an increase of the presence in the main retail locations (Brounen, Colliander, and Eichholtz, 2005).

Looking at more recent trends, retail real estate is affected by the megatrend of digitalisation that is emerging from the need of satisfying a vast population (Nanda, Xu and Zhang, 2021). E-commerce poses new challenges due to the evolution of the way of shopping and stimulating an intense debate on the potential effects for retail real estate, without never questioning the existence of High Street, but forecasting changes in the types of the retailers represented and the types of the services offered (Dixon and Marston, 2002). Therefore, the value of retail property becomes a combination of physical and virtual consumer space, although it requires new marketing strategies and rental models (Miller, 2000).

A higher exposure on real estate is normally considered a proxy of higher potential diversification benefits for shareholders (Liow and Nappi-Choulet, 2008) and normally the market accepts to pay a premium for investing in real estate due to the higher expected value of the guarantees provided (Yu and Liow, 2009). Even if it is clear in the literature that the value of real estate ownership is affected by its location (e.g. Roulac, 1995), there is no evidence on the impact of the characteristics of the real estate portfolio owned on the firm's value. The article collects a unique database on the characteristics of the real estate portfolio owned by the retail corporation and evaluates if changes in the real estate portfolio construction strategy affect the market value of the firm. The results obtained show that retail companies are investing in CRE jointly with the development of the online channel and they prefer to invest in the local country. The market recognizes a premium for the shares of companies that are reducing their investment in new store location and are increasing the volume of sales online, and the impact is even stronger after the Covid-19 pandemic.

## 2. LITERATURE REVIEW

CRE refers to the land and buildings owned or rented by companies in order to run their business and maximise the revenues related to operations. Firms that increase real estate ownership are normally characterised by above-the-average growth expectations due to the business opportunities created by real estate that may justify the choice of investing in fixed assets determining costs that are expected to be amortised only in the medium-long term (Gale and Case, 1989). The business opportunities created by real estate ownership are affected by the selection of the location that reflects both the macro- and the micro-environment. The macro environment factors include the globalization of business activities, the evolution of technology, the socio-demographic, cultural-environmental factors and, therefore, the government policy, while the micro environment reflects the type of the estate and of the business activity (Rymarzak and Siemin'ska, 2012). Such evidence are particularly appropriate for the retail sector featured by a closer connection between operating activities and real properties that are used to implement strategies orientated both to promote marketing messages, through the physical advertising in prestigious and high visible areas and the offer of services to the customers, and to increase sales attracting customers through an appropriate selection of the location and the format of the premises (Nourse and Roulac, 1993). More than considering general factors featuring the macro investment, the perceived value of each location is affected by demand-side factors dealing with the location attractiveness based on the number of consumers and their purchasing power, and supply-side factors reflecting the local conditions of the estate allowing the specific business activity (Tuselmann, 1999). Looking specifically at the demand side factors, the population characteristics and the households composition cover a critical role, while supply side factors reflect the real estate

characteristics of the local area, like the number, the size, and the growth rate of the real estate outlets, the saturation of the retail in the area, and the proximity of the transportation network and the parking facilities (Vandell and Carter, 1993).

Although the importance of location for retail activities is unquestionable, the development of technology and digital transformation are affecting the role and functions of retail spaces. After an initial scientific debate on the alternative versus complementary relationship between brick-and-mortar shops and e-commerce, the online channel has moved forward to a mainstay of the physical store at the base of a multichannel user experience (Verhagen and van Dolen, 2008), allowing retailers to extend the market coverage and drawing attention to physical stores. Under this perspective, the first function is 'showrooming', that is, the store allows the diffusion of information about products and services offered and the ability to try the product during the search, generating synergies due to the boosting effect of the physical store with respect to online revenues (Fornari et al., 2016). Additionally, the function of the store can cover the offer of in person services of the after-sale phase to assist the customer with service appointments, customer complaints, and products repair with the effect of amplifying the sensory experience of the customer (Alexander and Cano, 2020). Besides the effect on the customer experience, the adoption of the multichannel approach to sales impacts positively the profitability of the seller because the on-line channel helps reducing the operating costs (Baen, 2000), boosting the efficiency of the business (Burt and Sparks, 2000), increasing the volume of the sales through increased visibility and transparency (Hendershott and Hendershott, 2000). The adoption of the online channel in the retail sector became very urgent during the Covid-19 pandemic due to the mobility restrictions introduced by governments internationally: both grocery stores and luxury found an increase of the on-line sales due to the shifting of the customers from physical stores to on-line stores and the acquisition on new online customers, even though such shifting is not verified for the hospitality sector (Abay, Taferre and Woldemichael). More than the effects on shifting consumer demand for on-site and online shopping, the Covid-19 pandemic has accelerated the demand of tenants for the modification of retail spaces that is now more flexible in terms of lease payments and can also be for short periods (Msci and Paribas, 2019).

Despite the role of retail spaces that has been evolving over time, physical location is still a key element of the sales strategy along the consumer experience, although locational choices of retail spaces tend to be managed more efficiently at the portfolio level (Nanda, Xu and Zhang, 2021). Besides the implications for the consumer shopping experience, the management of existing properties and the choices to increase or decrease the real estate portfolio impacts also the performance of the firm in financial markets, As a matter of fact, the opening of new stores affects CRE strategy that is associated with an increase of the demand of shares in the stock market due to the

lower risk perceived by investors and the better performance expectation (Ling, Naranjio and Ryngaert, 2012). The positive effect of increasing real estate exposure is clearer in an increasing market trend with respect to a crisis market scenario (Hwa, 2007).

The existence of real estate assets owned directly by the firm attracts the attention of a corporate raider that wants to invest in the firm through an M&A. The simple analysis of the size of the exposure shows that the probability of a takeover increases but does not show any abnormal profit that may derive from the transaction in an efficient financial market (Ambrose, 1990) and normally the impact on the takeover probability is higher for inter-industry M&A (Brounen, Van Dijk, and Eichholtz, 2008). At the same time, the analysis of such type of extraordinary events shows that an excessive exposure to real estate may also cause a decrease of possible synergies and the effect is even stronger for small firms (Graham and Stiles, 2014).

An increase in the value of real estate assets implies a different ability to raise new capital due to the higher value of the collateral provided. Lower financing constraints may have a direct impact on the firm's growth perspective, and a higher exposure to real estate assets that experience an above average value increases the expectation of growth and the market share of the company (Alimov, 2016).

CRE is normally considered a source of diversification for the firm that allows stabilise the income over time and reduces the risk assumed by shareholders. Empirical evidence on the impact of the amount of exposure on the risk assumed is still limited and there is no clear evidence of the potential advantages related to reducing the risk assumed by shareholders (Seiler, Chatrath, and Webb, 2001).

The impact of real estate exposure on the value of the firm is affected by the trend and the causes of the increase / decrease in average prices. In the event of a price bubble, the negative effect on the company value is at the maximum, while if the change of the price is driven by a productivity change, the impact is limited (Cheong and Kim, 1997).

A change in the real estate exposure usually has an impact on the firm's market evaluation in the current year and in the following years. Empirical evidence demonstrated that the market response is different on the basis of the sector analysis, and the more significant reaction is related to the retail sector in which a real estate sale has a positive effect on the current stock prices (Nappi-Choulet, Missioner-Piera, and Cancel, 2009).

Firm fundamentals affect the size of the real estate exposure at corporate level and normally some business features will represent an incentive for investing in real estate assets as an alternative of renting or leasing solution. The literature shows that firms more interested in owning real estate assets have a lower level of risk profile and, normally, riskier firms are those that avoid investing in the real estate market (Zhao and Sing, 2016).

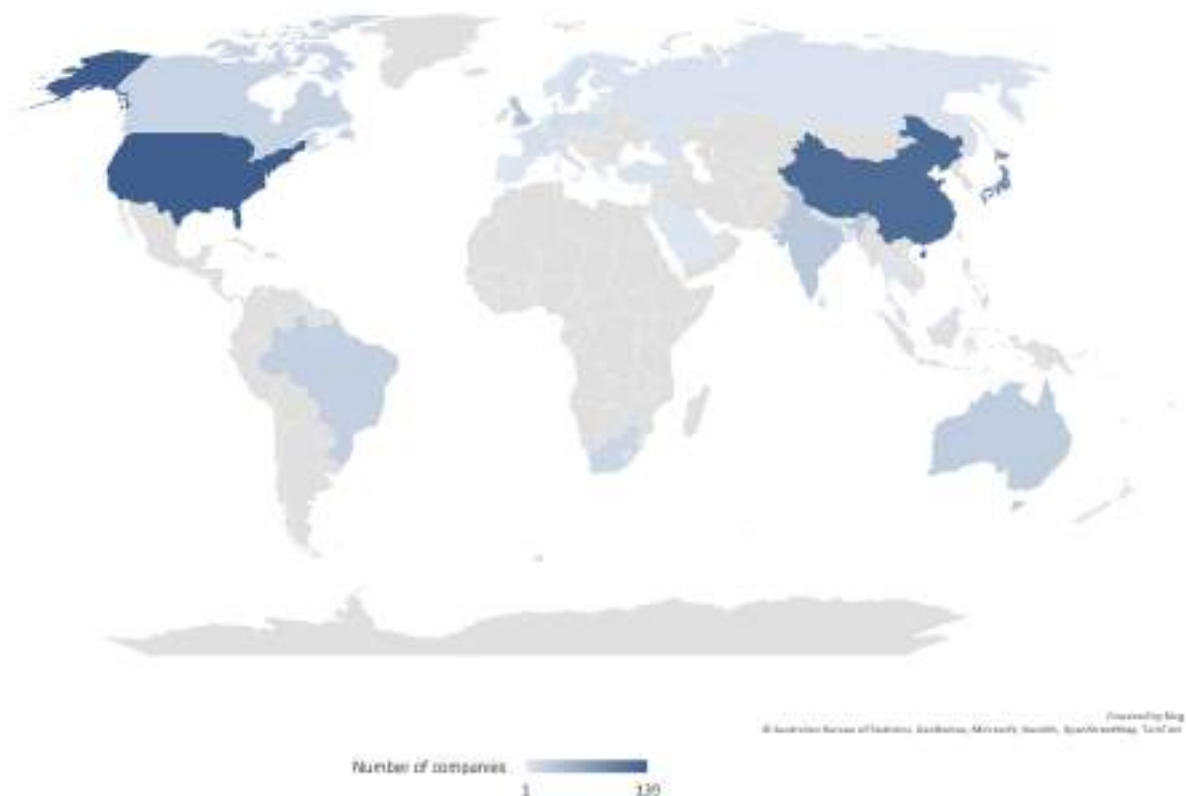
Empirical evidence shows that higher exposure on real estate implies lower average returns and greater sensitivity to systematic risk (Deng and Gyouko, 1999). The detailed analysis of real estate assets owned shows that if the attention is focused only on instrumental real estate assets, the unexpected performance of firms with higher exposures is higher than other firms (Tuzel, 2010). The impact of the real estate ownership on the stock market performance is significantly different on the basis of the overall market condition, and normally in a crisis scenario the lower performance of high CRE firms is more significant (Liow, 2004).

### 3. EMPIRICAL ANALYSIS

#### 3.1 Sample

The sample considers all companies listed at the end of 2022 that are operating in the retail sector (consumer cyclical and not cyclical) and for which the Refinitiv database collects operating metrics (Figure 1).

Figure 1. Sample

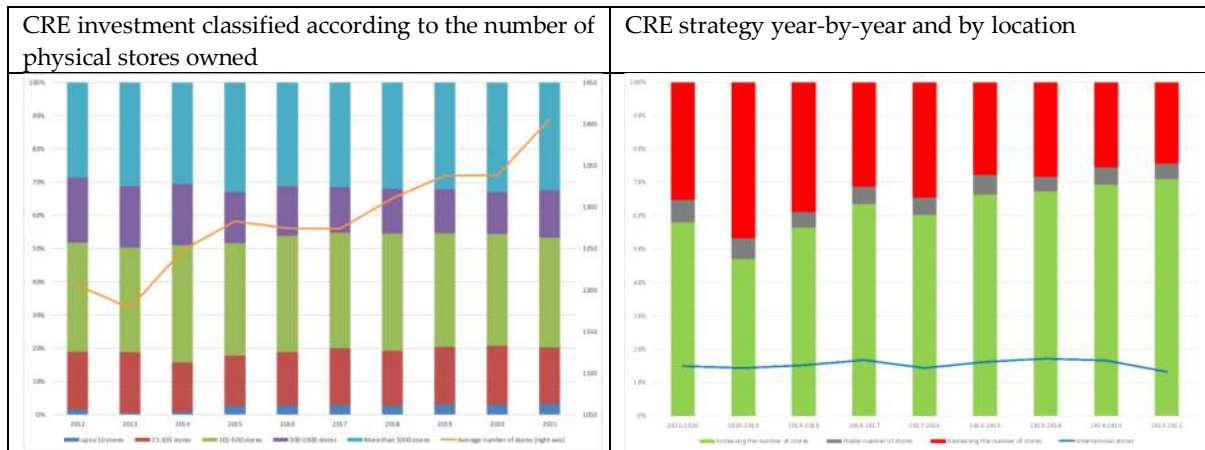


Source: Refinitiv data processed by the authors.

The selected firms are 646 from 42 different countries. The countries most represented are the United States (140), China (125), and Japan (86), and the geographical area that is less represented is Africa (only 15 corporations based in South Africa).

Operating metrics collected in Refinitiv allow one to evaluate the location strategy (n° of domestic and international stores) and the role of the online channel for the sales strategy for the period 2012-2021. Following Hernandez and Biasotto (2001) illustrating that most location decisions involve managing the existing location asset as opposed to increasing or decreasing the size of the portfolio, the CRE strategy of retail companies could be summarised by analysing the trend on the number of selling points owned or leased by corporations and the change of the strategy over time (Figure 2).

Figure 2. CRE investment of retail companies

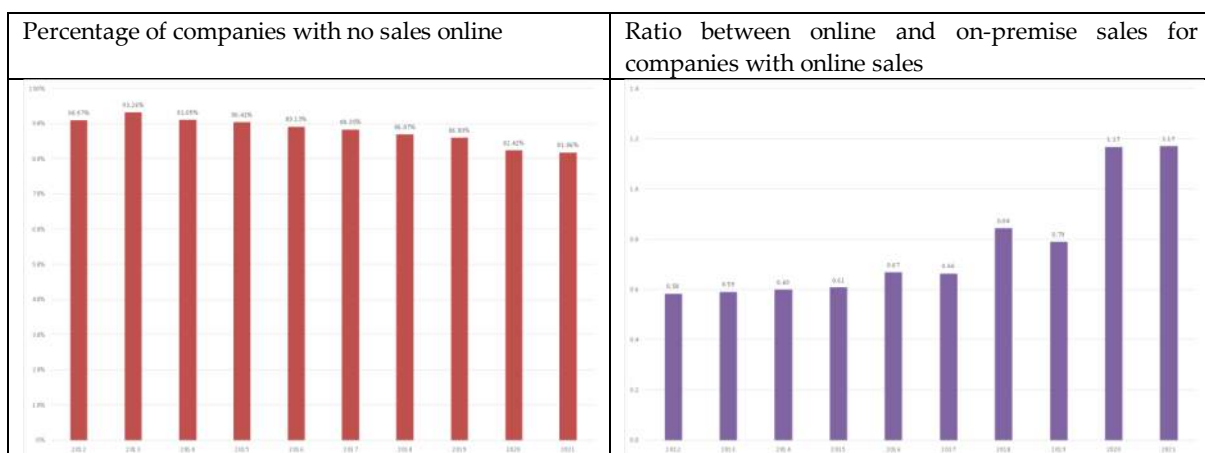


Source: Refinitiv data processed by the authors.

Over the ten years, the number of average stores used by the companies has increased from 1206 in 2012 to 1406 in 2021 and less than 20% of the firms have less than 100 selling points. Year-by-year corporations increase the number of stores owned more frequently and decrease them independently with respect to the year period selected. More than 10% of the firms have invested in brick-and-mortar stores out of the country of origin, and the role of international investment is increasing from 13% in 2012 to 14.8% in 2021.

The analysis of the sales classified based on the selling channel allows identifying some interesting trends in increasing online revenues for companies operating in the retail sector (Figure 3).

Figure 3. Revenue breakdown by selling channel



Source: Refinitiv data processed by the authors.

Data show that the number of companies that do not have a proprietary online selling channel is decreasing over time moving from 91% in 2012 to 82% in 2021 and the trend was only speed-up by the pandemic because in 2020 the percentage decreased by more than 3% in only one year. In 2012 companies that were both selling channels used to sell around the double of the values of items from physical stores with respect to online, while since 2020 the online sales value more than those related to the other stores.

### 3.2 Methodology

The analysis will consider the performance of firms and the role of the real estate portfolio in explaining the abnormal return achieved. The methodology adopted is a two-stage least squares approach constructed based on the following formulas (Park and Glascock, 2010):

$$R_{it} = \ln\left(\frac{P_{t+1}}{P_t}\right) \quad (1)$$

$$\alpha_{it} = R_{it} - E(R_{it}) = R_{it} - R_{ft} - \beta_{it}^e (R_{mt} - R_{ft}) \quad (2)$$

$$\alpha_{it} = \gamma_0 + \gamma_1 PPE_{it} + \gamma_2 LEV_{it} + \gamma_3 \ln MV_{it} + \varepsilon_{it} \quad (3)$$

where:

$R_{it}$  is the yearly return of the firm  $i$  at year  $t$  computed as the ratio of the closing price at the end of the year  $t+1$  ( $P_{t+1}$ ) with respect to same price at the end of the year  $t$  ( $P_t$ );

$R_{ft}$  is the yearly return of the risk-free rate proxied by the US treasury bill 3 months;

$R_{mt}$  is the yearly return of a customized equally weighted index that considers all companies in the sample;

$\beta_{it}^e$  is the beta of the share  $i$  that measures share price sensitivity to the market benchmark computed over the last two years based on weekly data.

$PPE_{it}$  is the amount of Property, Plant, and Equipment scaled for Total assets;

$LEV_{it}$  is the leverage policy proxied by the ratio of total debt with respect to Equity;

$\ln MV_{it}$  is a proxy of the size of the firm constructed as the natural logarithm of the market value;

The model is augmented to test the following hypothesis related to the geographical diversification of corporate real estate portfolio:

Hyp 1. Does the market pay a premium for retail companies based on their CRE policy?

Hyp 2. Did Covid-19 change the role of the CRE strategy in the retail sector?

The new formulas tested are the following:

$$\alpha_{it} = \gamma_0 + \gamma_1 PPE_{it} + \gamma_2 LEV_{it} + \gamma_3 \ln MV_{it} + \gamma_4 IntCRE_{it} + \gamma_5 \ln Stores_{it-1} + \gamma_6 \Delta Stores_{it} + \gamma_7 OnlineSales_{it} + \varepsilon_{it} \quad (4)$$



$$\alpha_{it} = \gamma_0 + \gamma_1 PPE_{it} + \gamma_2 LEV_{it} + \gamma_3 \ln MV_{it} + \gamma_4 IntCRE_{it} + \gamma_5 \ln Stores_{it-1} + \gamma_6 \Delta Stores_{it} + \gamma_7 OnlineSales_{it} + \gamma_8 Covid_{it} + \varepsilon_{it} \quad (5)$$

$$\alpha_{it} = \gamma_0 + \gamma_1 PPE_{it} + \gamma_2 LEV_{it} + \gamma_3 \ln MV_{it} + \gamma_4 Covid_{it} \times IntCRE_{it} + \gamma_5 Covid_{it} \times \ln Stores_{it-1} + \gamma_6 Covid_{it} \times \Delta Stores_{it} + \gamma_7 Covid_{it} \times OnlineSales_{it} + \gamma_8 (1 - Covid_{it}) \times IntCRE_{it} + \gamma_9 (1 - Covid_{it}) \times \ln Stores_{it-1} + \gamma_{10} (1 - Covid_{it}) \times \Delta Stores_{it} + \gamma_{11} (1 - Covid_{it}) \times OnlineSales_{it} + \varepsilon_{it} \quad (6)$$

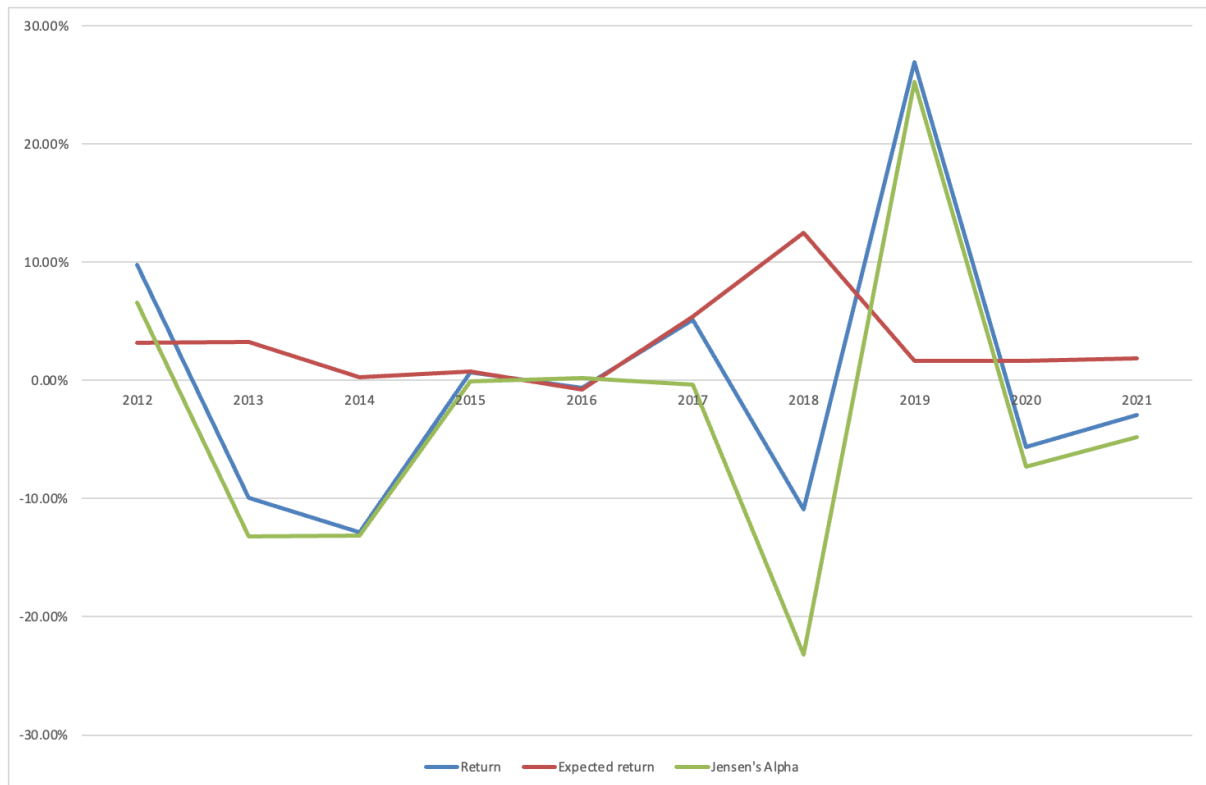
where the new variables added in formula (4) with respect to formula (3) consider the impact of CRE policy on the extra-performance achieved by measuring the percentage of international retail shops ( $IntCRE_{it}$ ), the natural logarithm of the number of selling points at the beginning of the year ( $\ln Stores_{it-1}$ ), the percentage of stores opened or closed during the year ( $\Delta Stores_{it}$ ), and the ratio between the online and on store sales ( $OnlineSales_{it}$ ). The new formula allows us to test whether the CRE strategy matters in predicting the abnormal performance of a company operating in the retail sector.

Formulas (5) and (6) allow testing if the role of CRE strategy for the financial markets is changed after the pandemic by using a dummy variable ( $Covid_{it}$ ) that assumes values 0 before 2020 and 1 otherwise. The dummy is used to test whether the event impacted the market (formula 4) and/or if the role of CRE strategy variables has changed after the pandemic (formula 5).

### 3.3 Results

A preliminary analysis of the performance achieved by the companies does not show a clear pattern over time (Figure 4).

Figure 4. Performance and Jensen's alpha for retail companies



Source: Refinitiv data processed by the authors.

The best years in the period considered are 2012, 2015, and 2019 for which retail companies on average outperform the expected return and achieved a positive Jensen Alpha. The expected return is increasing from 2016, but the maximum reached before the pandemic (2018) was significantly higher than in the last years of the period analysed

Table 1. Jensen's Alpha for retail companies classified based on the CRE investment features

| Companies classified for CRE International investment              |        |         |         |        |        |        |         |        |         |         |         |
|--|--------|---------|---------|--------|--------|--------|---------|--------|---------|---------|---------|
|  | 2012   | 2013    | 2014    | 2015   | 2016   | 2017   | 2018    | 2019   | 2020    | 2021    | Average |
| With International exposure  | -1.50% | -16.46% | -21.84% | 4.29%  | 4.77%  | -0.96% | -34.41% | 26.20% | -7.13%  | -4.58%  | -5.16%  |
| Without International exposure                                     | 4.48%  | -15.53% | -12.08% | 0.95%  | 2.68%  | -1.79% | -20.72% | 25.07% | -7.02%  | -4.86%  | -2.88%  |
| Companies classified for the role of online revenues               |        |         |         |        |        |        |         |        |         |         |         |
|  | 2012   | 2013    | 2014    | 2015   | 2016   | 2017   | 2018    | 2019   | 2020    | 2021    | Average |
| With online revenues   | -0.83% | -18.28% | -17.72% | -0.49% | 11.81% | 1.70%  | -22.20% | 24.32% | -4.33%  | -7.35%  | -3.34%  |
| With no online revenues  | 6.13%  | -15.06% | -14.83% | 1.01%  | 6.70%  | -3.75% | -22.02% | 24.50% | -8.46%  | -4.18%  | -3.00%  |
| Companies classified by number of stores                           |        |         |         |        |        |        |         |        |         |         |         |
|  | 2012   | 2013    | 2014    | 2015   | 2016   | 2017   | 2018    | 2019   | 2020    | 2021    | Average |
| With more than 100 stores  | 3.26%  | -14.70% | -16.34% | -0.85% | 1.13%  | -1.70% | -22.70% | 22.60% | -7.96%  | -3.05%  | -4.03%  |
| With less than 100 stores  | 4.48%  | -16.12% | -12.23% | 2.67%  | 3.87%  | -1.65% | -23.03% | 26.56% | -6.56%  | -5.69%  | -2.77%  |
| Companies classified for the yearly change in the number of stores |        |         |         |        |        |        |         |        |         |         |         |
|  | 2012   | 2013    | 2014    | 2015   | 2016   | 2017   | 2018    | 2019   | 2020    | 2021    | Average |
| Growing number of stores   | -      | -17.95% | -14.74% | 1.59%  | 0.38%  | -3.16% | -26.56% | 23.05% | -12.06% | -10.47% | -6.66%  |
| Stable number of stores  | -      | -2.73%  | -18.31% | -0.37% | -3.05% | 0.16%  | -29.19% | 31.87% | -5.95%  | -1.73%  | -3.26%  |
| Decreasing number of stores  | -      | -9.02%  | -9.03%  | 5.65%  | 14.42% | -0.58% | -17.50% | 26.15% | -2.61%  | 3.64%   | 1.24%   |

Source: Refinitiv data processed by the authors.

The performance analysis of the companies classified by the CRE strategy allows one to identify some interesting differences among them (Table 1).

The choice of developing an international network of stores for a retail company is no longer rewarded by the market. Typically, companies with fewer stores that rationalize their investment into CRE may be characterized by higher returns concerning the others. The market no longer rewards the simple existence of an on-line channel because the number of companies that use blended selling channel is increased significantly.

A panel regression model allows one to identify the main drivers of abnormal performance for retail companies (Table 2)

Table 1. Jensen's Alpha and company characteristics

|  | (3)                                 | (4)                                 | (5)                                 | (6)                                 |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| <i>Intercept</i>   | 0.107**                             | -0.087**                            | 0.110**                             | -0.039*                             |
| <i>PPE<sub>it</sub></i>                                    | -0.014*                             | -0.0132*                            | -0.013*                             | -0.014*                             |
| <i>LEV<sub>it</sub></i>                                    | -0.005                              | -0.003                              | -0.003                              | -0.004                              |
| <i>lnMV<sub>it</sub></i>                                   | -0.004*                             | -0.004**                            | -0.005**                            | -0.005*                             |
| <i>IntCRE<sub>it</sub></i>                                 | -                                   | 0.030                               | 0.030                               | -                                   |
| <i>lnStores<sub>it-1</sub></i>                             | -                                   | -0.007                              | -0.007                              | -                                   |
| <i>ΔStores<sub>it</sub></i>                                | -                                   | -0.002**                            | -0.003**                            | -                                   |
| <i>OnlineSales<sub>it</sub></i>                            | -                                   | 0.074**                             | 0.002                               | -                                   |
| <i>Covid<sub>it</sub></i>                                  | -                                   | -                                   | -0.122**                            | -                                   |
| <i>Covid<sub>it</sub> × IntCRE<sub>it</sub></i>            | -                                   | -                                   | -                                   | 0.038                               |
| <i>Covid<sub>it</sub> × lnStores<sub>it-1</sub></i>        | -                                   | -                                   | -                                   | 0.004                               |
| <i>Covid<sub>it</sub> × ΔStores<sub>it</sub></i>           | -                                   | -                                   | -                                   | -0.005**                            |
| <i>Covid<sub>it</sub> × OnlineSales<sub>it</sub></i>       | -                                   | -                                   | -                                   | 0.002*                              |
| <i>(1 - Covid<sub>it</sub>) × IntCRE<sub>it</sub></i>      | -                                   | -                                   | -                                   | 0.001                               |
| <i>(1 - Covid<sub>it</sub>) × lnStores<sub>it-1</sub></i>  | -                                   | -                                   | -                                   | 0.001                               |
| <i>(1 - Covid<sub>it</sub>) × ΔStores<sub>it</sub></i>     | -                                   | -                                   | -                                   | -0.002                              |
| <i>(1 - Covid<sub>it</sub>) × OnlineSales<sub>it</sub></i> | -                                   | -                                   | -                                   | 0.001                               |
| Years FE   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Company FE   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Companies  | 646                                 | 646                                 | 646                                 | 646                                 |
| Observations   | 6460                                | 6460                                | 6460                                | 6460                                |
| Adjusted R2  | 0.167                               | 0.169                               | 0.169                               | 0.167                               |

Notes: The table presents the results of a panel linear regression model (fixed effects). Independent variable is the Jensen's Alpha and independent variables are:  $\frac{PPE_{it}}{Total\ Assets_{it}}$  is the amount of Property, Plant, and Equipment scaled for Total assets;  $\frac{Debt}{Equity}$  is the leverage policy proxied by the ratio of total debt with respect to Equity;  $\ln MV_{it}$  is a proxy of the size of the firm constructed as the natural logarithm of the market value;  $\frac{IntCRE_{it}}{Stores_{it}}$  is the percentage of international retail shops;  $\ln Stores_{it-1}$  is the natural logarithm of the number of selling points at the beginning of the year,  $\frac{\Delta Stores_{it}}{Stores_{it}}$  is the percentage of stores opened or closed during the year,  $\frac{OnlineSales_{it}}{TotalSales_{it}}$  is the ratio between the online and on store sales ( $\frac{OnlineSales_{it}}{TotalSales_{it}}$ );  $Covid_{it}$  is a dummy variable that assumes values 0 before 2020 and 1 otherwise.

Source: Refinitiv data processed by the authors.

Retail companies that outperform the expected return invest less in property and plants and are characterized by lower market capitalization. Data do not support the hypothesis that the ownership of real estate assets for corporate real estate is recognised by the market as a value added, so retail companies that rent buildings instead of owning them must be preferred from the investors' point of view. The results are in line with previous evidence provided in literature on international retail companies (e.g. Yu and Liow, 2009)

Looking at the CRE strategy, the choice to invest in developing an international network of stores does not create value for shareholders. Companies that reduce the number of physical stores and increase the volume of online sales perform best in the stock market.

Covid-19 had a negative impact on the average performance of retail companies due to the worsening economic condition in all countries worldwide and the reduction of sales from physical stores during the lockdown periods. The most relevant impact related to Covid must be ascribed to the lower profitability of developing new stores and the greater benefits associated with increasing online sales after the pandemic.

#### **4. CONCLUSION**

Retail companies must plan their CRE strategy to maximise the benefits related to owning stores worldwide and the opportunities offered by online channels. Empirical analysis indicated that the number of stores is increasing over time, even if the volume of online sales has increased over the last decade. The international CRE strategy does not change significantly over time, and less than 15% of the selling points are based in a foreign country. CRE strategy has an impact on the stock market performance for retail companies and during the last decade, better performance was achieved by firms that decreased the number of brick-and-mortar stores and increased the volume of sales online.

After the pandemic, the overall impact on the performance of the retail companies was negative, and nowadays companies that want to outperform the market have to reduce the number of shops used even more and increase the role of sales online. The lower role of physical stores is supported by the literature that pointed out that for some customers, the online option will be preferred even after the end of the pandemic period (e.g. Szasz et al., 2022).

More empirical analysis is needed to identify whether the supply chain characteristics of retail companies may affect the CRE policy. In fact, during the pandemic, companies have experienced issues related to having a global supply chain and the impact of supply chain disruptions on companies' risk (Gibilario and Mattarocci, 2022). The CRE investment strategy usually has to prefer to

select brick-and-mortar near the main customers or suppliers instead of trying to create new selling points in areas characterised by higher uncertainty for the sales or the procurement strategy.

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# THE ASYMMETRIC EFFECTS OF MULTI-ATTRIBUTES EXTRACTED FROM ONLINE REVIEWS ON HOTEL RATINGS: THE ROLE OF CULTURE

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## ABSTRACT

This study aims to explore how culture induces the dynamics in the asymmetric impact of service quality attributes, extracted from hotel customers' online reviews, on customer satisfaction. The study analyses 13.653 tourists' online reviews from various European regions concerning the service they received from 4- and 5-star hotels located in the vicinity of Athens, Greece. Then, a multi-attribute model is formulated to examine, through PLS SEM, how customers' cultural background creates dynamics in the asymmetric impact of the identified hotel-related service attributes on customer satisfaction. The results indicate that customers from different cultural backgrounds assess differently the impact of certain service attributes on their satisfaction from the hotels' service package. The results of this study can be used by hotel managers for segmentation purposes of the European tourism market and for identifying which aspects of their service mix need to be customized based on the cultural group they target.

*Keywords:* customer satisfaction, hotels online reviews, asymmetric effects, three factor theory culture, international business

## INTRODUCTION AND CONCEPTUAL BACKGROUND

Customer satisfaction has always been and still remains a core measure of successful business management and is closely related to customers' retention and firms' profitability (Kim et al., 2023; Chatterjee and Mandal, 2020; Abdullah et al., 2023; Moreno Brito et al., 2024). Customers formulate the level of their satisfaction based on what they receive from service providers in terms of service



product and service delivery. As such, it is of paramount importance for service providers to understand customer perceptions about several aspects of service mix in order to prepare an effective marketing strategy (Lin and Vlachos, 2018). The knowledge of customer preferences is crucial especially in the context of tourism, given the complexities that the tourism industry is currently facing, which have significantly changed customer behavior to such an extent that customer satisfaction is an important driver of service providers' survival (Akamavi et al., 2015; Chatterjee and Mandal, 2020; Liu et al., 2023).

During the last ten years, several studies have used online reviews as a proxy for service evaluation (e.g., Chatterjee and Mandal, 2020; Mariani and Predvoditeleva, 2019; Mariani et al., 2020; Athanasopoulou et al., 2023; Patil and Rane, 2023; Glaveli et al., 2023). The reason is the importance that online reviews have for customers as information sources in their decision process, as well as their significant effect on customers' purchase decisions (Mathwick and Mosteller, 2016) and service providers' sales and profitability (Kim et al., 2015).

On the other hand, different service attributes have been found to have asymmetric effects on customer satisfaction (e.g. Mikulic & Prebežac, 2008; Kim et al., 2016; Kim et al., 2023; Athanasopoulou et al., 2023; Zhou et al., 2023) and these effects are expected to vary according to customers' cultural background or region of residence (e.g. Banerjee & Chua, 2016; Min et al., 2018; Tsiotsou, 2019; Zhang et al., 2020; Chatterjee and Mandal, 2020; Tsiotsou, 2022; Guan et al., 2022).

Although there are several studies investigating the role of service attributes' evaluation, using online reviews, for customers from different cultures, there are no research efforts to consider the impact of service attributes asymmetric effects from online review on customer satisfaction for customers from various cultural backgrounds. Thus, the purpose of these study is to investigate whether the asymmetric effects of different hotel service attributes, extracted from online reviews, vary for customers from different European cultural clusters.

## **RESEARCH METHODOLOGY**

The study has analyzed 13,653 online reviews extracted from Booking.com. These reviews concern European customers evaluations for 97 4- and 5-star hotels located in Athens, Greece, which has been posted between June 2022 and June 2024. As it is known, the textual content of each review in Booking.com is divided into positive and negative aspects, which provide an easier way to examine the asymmetric effects of service attributes on customer satisfaction. To extract attribute-level evaluation from text content, a content analysis was performed in order to formulate a multi-attribute model relating positively and negatively assessed service attributes and customer's overall rating or

satisfaction. More specifically, the most frequent mentioned 150 words from the textual content were extracted and then three independent coders classified the words into eight service attributes: cleanliness, location, staff, facilities, room, food, processes, and value for money. Any conflicts in the classification amongst coders were resolved by using a fourth coder with high experience in the field. As the textual content of each review consists of positive and negative evaluations of hotel services, the textual content of each review could contain up to sixteen (16) attributes (8 positive and 8 negative). The 16 independent variables, reflecting multi-attributes of hotel service mix, were constructed based the binary representation (Kim et al., 2023), in which positive (negative) service attribute number variables refer the number of each attribute-related words in pros (cons) of each review. Then, if the number of words in pros (cons) is greater than 0, then the variable becomes 1, otherwise 0. Next, the penalty-reward contrast analysis (PRCA) (Mikulic and Prebežac, 2008), and the three-factor theory of customer satisfaction (Matzler and Sauerwein, 2002), is used to investigate the asymmetric impact of different service attributes on customer satisfaction.

Based on this modeling framework, the service attributes can be categorized as: 1) basic factors, when the impact of the negative evaluation of an attribute on customer satisfaction is greater than the positive one, 2) excitement factors, when the impact of the negative evaluation of an attribute on customer satisfaction is lower than the positive one and 3) performance factors, when the impacts of both the negative and the positive evaluation of an attribute on customer satisfaction are equal. Basic factors represent the qualifiers of a service, which induce dissatisfaction when they are not present, yet they do not produce satisfaction when they are delivered. Excitement factors, produce satisfaction if they are delivered, but their absence does not lead to dissatisfaction. Finally, performance factors produce satisfaction when they perform high and dissatisfaction when they perform poorly (Mikulic and Prebežac, 2008).

Finally, based on the studies of Tsiotsou (2019, 2022), a four cross-supranational cultural study is conducted, in order to see whether the asymmetric effects of identified service attributes on overall satisfaction vary for customers from different cultural backgrounds. The four cross-supranational cultural clusters were derived by dividing all European countries into four groups (i.e., eastern, northern, southern, and western clusters) based on the geographical and cultural proximity between countries. Based on this categorization, the eastern European cluster includes Belarus, Bulgaria, Czech Republic, Hungary, GA, Poland, Moldova, Romania, Russia, Slovakia, and Ukraine. The northern European group includes Denmark, Estonia, Finland, Iceland, Ireland, Latvia, Lithuania, Norway, Sweden, and the UK. The southern European cluster includes Albania, Bosnia and Herzegovina, Croatia, Greece, Cyprus, Italy, North Macedonia, Malta, Montenegro, Portugal, Serbia, Slovenia, and

Spain. Finally, the western European group includes Austria, Belgium, France Germany, Luxemburg, the Netherlands, and Switzerland.

## RESULTS

The distribution of online review per cultural cluster is the following: Eastern European: 1,387 (10%), Northern European: 5,394 (40%), Southern European: 4,154 (30%) and Western Europeans: 2,718 (20%). The ANOVA analysis, presented in Table 1, indicates that the Western Europeans are significantly more satisfied than the customers from the other clusters.

| Cultural Cluster | Mean  | Std. Dev. |
|------------------|-------|-----------|
| EE               | 8.186 | 1.672     |
| NE               | 8.190 | 1.603     |
| SE               | 8.209 | 1.663     |
| WE               | 8.371 | 1.615     |
| Total            | 8.267 | 1.635     |

|                | Sum of Squares | df    | Mean Square | F      | Sig. |
|----------------|----------------|-------|-------------|--------|------|
| Between Groups | 97.474         | 3     | 32.491      | 12.180 | .000 |
| Within Groups  | 36409.669      | 13649 | 2.668       |        |      |
| Total          | 36507.143      | 13652 |             |        |      |

Note: Eastern European (EE); Northern European (NE); Southern European (SE); Western European (WE)

Table 1. ANOVA results

The PLS SEM was used to test the asymmetric effects of service attributes on customer satisfaction and a permutation test (randomization test) was performed to assess the differences of the previous relationships between the four supranational cultural clusters (Chin, 2009). The results are presented in Table 2.

| Independent variable | Whole Sample |         | Eastern Europe |         | Northern Europe |         | Southern Europe |         | Western Europe |         |
|----------------------|--------------|---------|----------------|---------|-----------------|---------|-----------------|---------|----------------|---------|
|                      | Value        | t-stat  | Value          | t-stat  | Value           | t-stat  | Value           | t-stat  | Value          | t-stat  |
| Cleanliness+         | 0.034        | 5.308   | 0.025          | 1.264   | 0.019           | 1.882   | 0.064           | 5.360   | 0.018          | 1.262   |
| Location+            | 0.088        | 13.814  | 0.109          | 5.582   | 0.093           | 9.189   | 0.061           | 5.186   | 0.111          | 7.786   |
| Staff+               | 0.159        | 24.289  | 0.124          | 6.053   | 0.163           | 15.705  | 0.162           | 13.327  | 0.159          | 11.021  |
| Facilities+          | 0.077        | 12.077  | 0.062          | 3.176   | 0.075           | 7.379   | 0.061           | 5.161   | 0.098          | 6.901   |
| Room+                | 0.136        | 21.000  | 0.144          | 7.258   | 0.127           | 12.389  | 0.154           | 12.958  | 0.123          | 8.527   |
| Food+                | 0.071        | 10.985  | 0.057          | 2.852   | 0.068           | 6.549   | 0.063           | 5.250   | 0.099          | 6.837   |
| Processes+           | 0.046        | 7.183   | 0.067          | 3.434   | 0.043           | 4.262   | 0.050           | 4.281   | 0.032          | 2.286   |
| Value+               | 0.027        | 4.226   | 0.081          | 4.195   | 0.016           | 1.584   | 0.029           | 2.494   | 0.020          | 1.431   |
| Cleanliness-         | -0.219       | -34.168 | -0.237         | -12.163 | -0.208          | -20.364 | -0.226          | -19.250 | -0.213         | -14.839 |
| Location-            | -0.130       | -20.452 | -0.161         | -8.316  | -0.149          | -14.680 | -0.096          | -8.206  | -0.126         | -8.900  |
| Staff-               | -0.197       | -30.257 | -0.169         | -8.496  | -0.211          | -20.350 | -0.200          | -16.691 | -0.181         | -12.497 |
| Facilities-          | -0.135       | -21.268 | -0.087         | -4.492  | -0.142          | -13.997 | -0.141          | -12.041 | -0.130         | -9.162  |
| Room-                | -0.297       | -46.469 | -0.282         | -14.522 | -0.299          | -29.351 | -0.284          | -24.149 | -0.314         | -22.040 |
| Food-                | -0.097       | -15.121 | -0.134         | -6.824  | -0.083          | -8.197  | -0.099          | -8.391  | -0.102         | -7.141  |
| Processes-           | -0.144       | -22.140 | -0.176         | -8.790  | -0.160          | -15.339 | -0.118          | -9.898  | -0.142         | -9.771  |
| Value-               | -0.119       | -18.720 | -0.114         | -5.790  | -0.108          | -10.581 | -0.130          | -11.113 | -0.140         | -9.812  |
| <b>R<sup>2</sup></b> | <b>0.457</b> |         | <b>0.501</b>   |         | <b>0.458</b>    |         | <b>0.443</b>    |         | <b>0.468</b>   |         |

Table 2. PRC Analysis results per cultural group

The results indicate that, for the whole sample, all service attributes are categorized as basic factors, given that the implementation of the Wald-test (Cheung and Lee, 2009) has shown that the impact of positive evaluations on customer satisfaction are much lower than the respective negative evaluations. The same analysis conducted for each cultural group reveals that all service attributes remain basic factors, except of location, staff, and food for the customers of the Western European cluster, which categorize these attributes as performance factors. These results validate, to a large extent, the asymmetric impact of service attributes' evaluation on customer satisfaction. The results of the multi-group analysis for the four supranational cultural clusters are presented in Table 3.

The comparison between Eastern and Northern European clusters indicates that for Northern Europeans, the negative evaluation of hotel facilities has a greater impact on customer satisfaction than for the Eastern Europeans, while positive evaluation of value for money matters more for Eastern Europeans.

| EE vs. NE   | EE vs. SE    | EE vs. WE | NE vs. SE    | NE vs. WE | SE vs. WE     |
|-------------|--------------|-----------|--------------|-----------|---------------|
|             | Location-    |           | Location-    |           |               |
| Facilities- | Facilities-  |           |              |           |               |
|             | Processes-   |           | Processes-   |           |               |
|             | Cleanliness+ |           | Cleanliness+ |           | Cleanliness + |
|             | Location+    |           | Location+    |           | Location +    |
| Value+      | Value+       | Value+    |              |           |               |
|             |              |           | Room+        |           | Room+         |
|             |              |           |              |           | Facilities +  |

Note: Eastern European (EE); Northern European (NE); Southern European (SE); Western European (WE)

Table 3. Cultural groups differential effects of service evaluation of customer satisfaction

The comparison between Eastern and Southern European clusters shows that the negative evaluation for attributes like location and processes are of greater value for Eastern Europeans while facilities are of greater value for Southern Europeans. On the other hand, the positive evaluation for attributes like cleanliness and value for money matter more for Southern Europeans, while the positive evaluation of locations matters more for Eastern Europeans.

The comparison between Eastern and Western European clusters revealed that the positive evaluation of value for money matters more for Eastern Europeans.

The comparison between Southern and Western European clusters revealed that the positive evaluation for cleanliness and room matter more for Southern Europeans, while those for location and facilities matter more for Western Europeans.

The comparison between Northern and Western European clusters has not revealed any attribute that their positively and negatively evaluations differently affect customer satisfaction

## CONCLUSIONS, LIMITATIONS, AND FURTHER RESEARCH

The purpose of this study was to validate the asymmetric effects of service attributes, extracted from online reviews for 4- and 5-star hotels of Athens, on customer satisfaction and further examine the differences of these asymmetric effects for four supranational cultural clusters. The results revealed that service attributes evaluation have an asymmetric effect on customer satisfaction as all extracted attributes operate as qualifiers for customer satisfaction level determination. The multi-group analysis between diverse European cultural groups disclosed that for certain hotel service attributes the impact of positive or negative evaluation on customer satisfaction varies between them.

Hotel managers can use these results to customize their service mix according to customers they target in their marketing strategies. These tailor-made strategies will lead to better online ratings which will then positively affect customer acquisition, through positive e-WOM, customer relationships management activities and finally hotels' profitability.

To understand how customers' cultural background moderates the relationship between multi-attributes and customer satisfaction, online reviews posted for hotels in Athens were analyzed. Findings related to further customers' heterogeneity would provide hotel managers with more diverse implications about how to develop and implement their marketing strategies. For example, cultural background could have differential impacts on customer satisfaction contingent on customers' travel purposes (leisure vs. business). Thus, further research should consider more customer characteristics.

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## ALIGNING HOSPITALITY: THE CONTRIBUTION OF HOTELS TO SUSTAINABLE ECONOMIC GROWTH AND DECENT WORK IN SPAIN

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### ABSTRACT

This research aims to identify the key factors influencing hotels' commitment to upholding 'labour rights protection' within the framework of Sustainable Development Goal 8, focusing specifically on targets 8.1, 8.2, and 8.9. Through the application of stepwise multiple linear regressions, the study attempts to forecast the variable of 'Economic Profitability' (EP) across two datasets. The primary objective is to ascertain whether EP, as a representation of SDG 8 under target 8.8, can be accurately predicted, thereby indicating the extent of hotels' dedication to safeguarding labour rights and fostering safe, secure working environments.

The results reveal that economic growth, financial stability, and economic productivity within the Spanish hotel industry serve as predictors of the inclination to protect labour rights. Conversely, governmental and associative support for socio-economic sustainability does not significantly influence hotels' commitment to labour rights protection.

This research offers valuable insights to facilitate meaningful collaborations to drive economic advancement, promote social inclusivity, and ensure the protection of labour rights within the hospitality sector.

*Keywords: SDGs, SDG08, sustainability, hotel industry, Spain, labour rights, economic growth*

### 1. INTRODUCTION AND LITERATURE REVIEW

The United Nations has launched the 2030 Agenda in 2015, and this was an important initiative that attracted businesses, from which ones in the hospitality and tourism industry to be involved. This agenda shaped an inclusive global strategy aimed at addressing key challenges, including poverty eradication, environmental preservation, and enhancing living standards. Subsequently, in 2017, the UN General Assembly further bolstered the efficacy of the Sustainable Development Goals (SDGs) by delineating 169 precise targets, thereby fortifying the roadmap towards realising these ambitious objectives.

As the efficacy of targets hinges on their measurability, the imperative arises to discern indicators reflecting the degree of success or failure. The inaugural SDGs global indicator framework, crafted by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs), stands as a pivotal milestone (UN Statistical Commission, 2016). This comprehensive framework encompasses 230 indicators intricately linked to the diverse array of SDG goals and targets. Annual refinements of indicators are included in the indicator framework as they occur. In line with the group's mandate, the IAEG-SDGs proposed 36 major changes to the framework in the form of replacements, revisions, additions, and deletions as part of the 2020 Comprehensive Review, which the 51st Statistical Commission approved in March 2020. From this primary list of indicators for evaluating SDGs' implementation, different organisations worked on adjusting SDGs indicators to specific realities (references....). There exist measurements on SDGs implementations at the country levels such as the SDG Index and Dashboard of UN Sustainable Development Solutions Network (UN-SDSN), which propose a large number of indicators to measure companies' progress towards the DSGs and their 169 associated targets. It is also worth pointing out the measurements of the implementation of SDGs by the private sector. The World Business Council for Sustainable Development (WBCSD), together with the Global Reporting Initiative (GRI) and the UN Global Compact, published a guide for businesses to implement and measure their contribution to SDG.

Once the operational bases of the 2030 Agenda have been raised, the question lies in identifying the role that hospitality and tourism actors play as active stakeholders in developing the actual Agenda and in achieving its objectives and targets. The latter framework encompasses a call to businesses with the potential to participate in the achievement of the seventeen sustainable development goals. Despite some asserting that the private sector will become an active agent in favour of the SDGs (Institute for Human Rights and Business, 2015), the need for a responsible entrepreneurial commitment and engagement towards SDGs is essential. The literature on the role of the private sector, and mainly the hospitality and tourism one, in achieving the SDGs is quite extensive (Corporate Citizenship, 2015; World Tourism Organization and the United Nations Global Compact Network Spain, 2016; Jones et al., 2017; Jones et al., 2019; Rashed & Shah, 2021).

The integration of hotels into the advancement of Sustainable Development Goals (SDGs) reflects a strategic approach embraced by the industry, as addressed by Jones and Comfort (2019). Rather than explicitly targeting individual SDGs, hotels incorporate them into their corporate social responsibility (CSR) strategies. This integration emphasises a significant convergence between SDGs and the CSR targets (Buhmann et al., 2019; Rashed and Shah., 2021). CSR initiatives are deeply rooted within the operational framework of the private sector, encompassing economic, social, and environmental



sustainability requirements (Kumi et al., 2019). As a result, CSR serves as a cornerstone for sustainability, economic competitiveness, and innovation, all vital components for achieving the SDGs. In this context, the United Nations World Tourism Organization (UNWTO) and the United Nations Private Sector Development Network (UPDN) emphasise the critical importance of aligning CSR strategies with the broader SDGs agenda and state that:

“some major companies, including NH Hotel Group and Marriott International, are starting to align their corporate social responsibility (CSR) strategies with the SDGs and to work together with the United Nations Global Compact, the International Tourism Partnership (ITP) and other important players in support of the Goals. These are encouraging signals, indicating that the private sector is willing to take on the opportunities and responsibilities to achieve the SDGs”. (UNWTO and UPDN, 2018:41).

CSR reports serve as valuable resources for understanding the tourism sector's impact on SDGs. Particularly, tourism frequently emerges in discussions related to SDGs 8, 12, and 17, as highlighted in Voluntary National Reviews on the SDGs (UNWTO and UPDN, 2018:11). Within the accommodation sector, major hotel chains routinely release their progress toward strategic objectives in annual reports. These reports serve as primary sources for academic research, enabling scholars to explore the role of hotels in advancing SDGs (Bacari et al., 2021; Jones & Comfort, 2019; Pattanaro & Donato, 2018; Jones et al., 2017; Jones et al., 2014).

Academic investigations often rely on secondary sources, particularly CSR reports, for data collection. For instance, Jones and Comfort (2019) utilised corporate websites to gather information by searching for "Sustainable Development Goals" along with the names of specific hotel groups. Similarly, UNWTO and UPN (2018) conducted content analyses of CSR reports from 60 global tourism companies, including those in the accommodation sector. Pattanaro and Donato (2018) offer a unique perspective by examining the potential benefits of SDG implementation for the tourism industry, presenting an original approach to studying the SDG-tourism relationship.

In terms of the analysis scope, the majority of the research studies tend to adopt a broad perspective when examining Sustainable Development Goals (SDGs) (Apostolopoulos et al., 2018; Jones & Comfort, 2019; Wynn & Jones, 2019; Álvarez-Risco et al., 2020; Dube, 2021). However, a notable difference exists from this general trend, with a few studies probing specific SDGs. Among notable studies in the field, Nwokorie and Obiora (2018) examined sustainable development practices across 15 hotels, focusing on the interrelation with SDGs 3, 4, 6, and 7. Similarly, Dube (2021) research focused on the implementation of SDGs 12, 13, and 15 within the hospitality sectors of Botswana and

Zimbabwe. Other studies placed emphasis on SDGs 8, 12, and 14, directly involving tourism and applying a significant multiplier effect on various other developmental goals, as highlighted by the SDG Knowledge Hub (2016).

Despite the numerous publications providing advancements in Sustainable Development within the hospitality and tourism sector, a significant knowledge gap must be addressed to reach anticipated viable outcomes. This gap underlines the hotel industry's sensitive focus on employees' well-being and actively contributing to global sustainability efforts (Álvarez-Risco et al., 2020).

This paper focuses on SDG number 8: "to promote inclusive and sustainable economic growth, employment and decent work for all. Sustained and inclusive economic growth can drive progress, create decent jobs for all and improve living standards".

UNWTO (2015) asserts that facilitating access to decent work opportunities within the tourism sector can be particularly advantageous for society, especially for youth and women, leading to enhanced skills and professional growth. Moreover, tourism stands as a cornerstone of global economic expansion, currently accounting for 1 in 11 jobs worldwide. Specifically, accommodation companies play a vital role in advancing SDG 8 by forging connections within local destination value chains, thereby generating employment opportunities and supporting local economies by procuring goods and services. By fostering awareness and bolstering the capacity of local populations and enterprises, these companies contribute to workforce engagement and enable communities to leverage tourism inflows for mutual benefit. Some operators have initiated programs to increase local employment and provide industry training, further enhancing the sustainability of their operations. (UNWTO and UPDN, 2018).

Goal 8 includes twelve targets associated with sixteen indicators (See Appendix 1). Among all the targets, UNWTO specifically recognises the tourism sector's contribution to job creation in Target 8.9: "By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products" (UNWTO, 2017a, p.99).

## **2. METHODOLOGY**

### *2.1. Proposed indicators for measuring impacts of hotels' engagement in SDG.08*

Unlike previous studies and as previously explained, this article does not seek to focus into the evaluation of SDGs implementation by hotels, but rather aims to predict the main variables impacting

hotels' engagement with "protection of labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment" (Target 8.8). Those variables are closely connected to SDGs' targets 8.1, 8.2, and 8.9. (Table 1).

## 2.2. Targets and indicators and variables under study

Although tourism is specifically named within Target 8.9, the authors defend that the tourism contribution, and more specifically the hospitality sector, to "decent work and economic growth" are not only related to Target 8.9. Together with Target 8.9, "By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products", authors propose to take into consideration three more targets (refer to Table 1).

Table 1.

| TARGET   | INDICATOR  | SOURCE   |
|--|--|--|
|  |  | United Nations UNWT<br>Statistical O<br>Commission<br>(2016) |
| 8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants and those in precarious employment             | 8.8.1 Frequency rates of fatal and non-fatal occupational injuries, by sex and migrant status  | √  |
|  | 8.8.2 Increase in national compliance of labour rights (freedom of association and collective bargaining) based on International Labour Organization (ILO) textual sources and national legislation, by sex and migrant status | √  |
| 8.1. Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries | 8.1.1 Annual growth rate of real GDP per capita  | √  |
| 8.2. Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value-added and labour-intensive sectors    | 8.2.1 Annual growth rate of real GDP per employed person   | √  |
| 8.9 By 2030, devise and implement policies to promote sustainable  | 8.9.1 Tourism direct GDP as a proportion of total GDP and in growth rate   | √ √  |

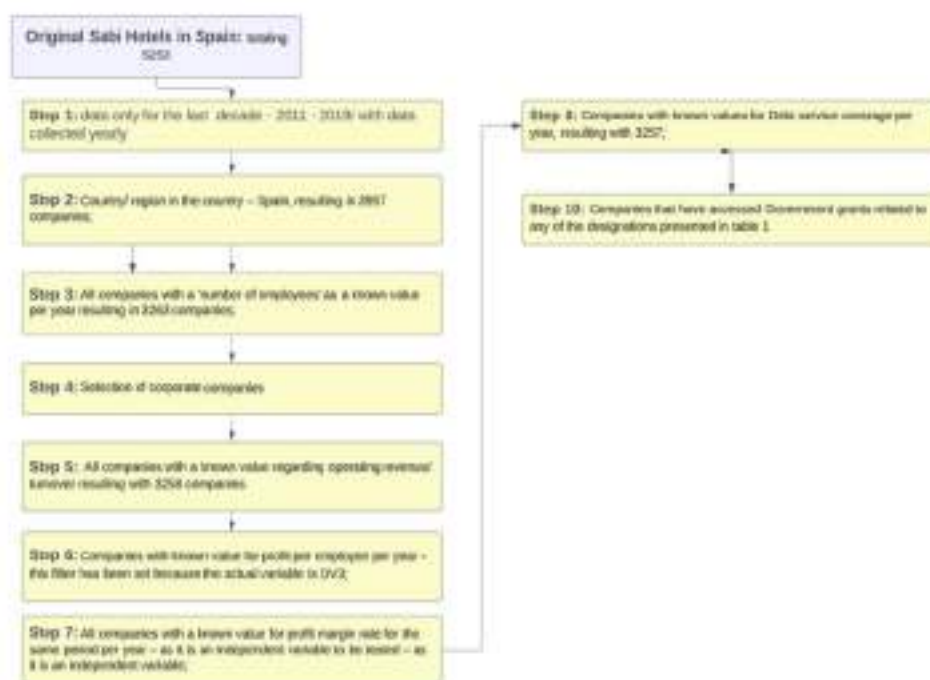
|   |   |   |   |
|---|---|---|---|
| tourism that creates jobs and promotes local culture and products | 8.9.1: Tourism Direct Gross Domestic Product  |   | √ |
|   | 8.9.2 Number of jobs in tourism industries as a proportion of total jobs and growth rate of jobs, by sex (2016) | √ | √ |
|   | 8.9.2. Proportion of jobs in sustainable tourism industries out of total tourism Jobs (2017)                    |   | √ |

This study considers that to measure the impacts of hotels' engagement on SDG number 8, the Dependent variables (Y1 and Y2) = Implicit costs, understood as economic profitability (including direct and indirect costs) - financial profitability (only including revenues and explicit costs). Besides, the independent variables are related to targets 8.9, 8.1 and 8.2 (refer to Table 2).

### 2.3. Data collection and cleaning

The study uses secondary data from Sabi (2021), encompassing 2.6 M Spanish and 0.8 M Portuguese companies. Different steps have been followed to collect the data (1) considering hotels in Spain totaling 5253, then (2) applying ten extra filters, considering the period of 2011-2019, and data collected yearly. The data from the years 2020 to 2023 has been excluded due to the lack of data resulting from the COVID-19 crisis impact in 2020 and 2021, thereby creating a gap in the data. The filters are as presented in Figure 1.

Figure 1.



The final database for the study encompassed 1496 hotel companies all over Spain. However, following the study objectives, although keeping the former database, the authors have processed another refinement and selected uniquely companies with grants related to the 3 following types: (1) Employment promotion, (2) Unemployment support and (3) Social services and social promotion. The second database comprises 241 hotel companies, each of which has sought and obtained loans related to social responsibility. These loans are intended to provide support to their employees, either socially, financially, or both, during a specific period of time (Table 2).

Table 2. *Grants types and coding*

| Designation  | Frequencies | Codes |
|--|-------------|-------|
| Trade, tourism, and SMEs                           | 472         | 1     |
| Other grants (grouped amounts or not classified)   | 322         | 2     |
| Employment promotion                               | 190         | 3     |
| Industry and energy                                | 136         | 4     |
| Other economic interventions                       | 123         | 5     |
| Infrastructures                                    | 89          | 6     |
| Agriculture, fishing, and food                     | 40          | 7     |
| Research & development & innovation                | 33          | 8     |
| Unemployment                                       | 32          | 9     |
| Other economic benefits                            | 21          | 10    |
| Social services and social promotion               | 19          | 11    |
| Culture  | 9           | 12    |
| International development and cultural cooperation | 3           | 12    |
| Transport subsidies                                | 3           | 13    |
| Education  | 2           | 14    |
| Access to housing and building promotion           | 1           | 15    |
| Health care  | 1           | 16    |
| Total  | 1496        |       |

#### 2.4. Variables definition and data analysis

The study applies 2 stepwise multiple linear regressions to test the hypothesis and to predict the dependent variables 'Economic profitability' (EP) for Dataset 1, and Dataset 2. The aim is to verify whether we could predict the DV representing SDG 8 under target 8.8 to protect labour rights and promote safe and secure working environments with a high level of accuracy. EP1 and EP2 are the DVs, representing the accounting profitability less the implicit cost. The latter is regarded as the opportunity cost and leads to a lower income for the company. It also refers to the unseen money that

would have come into the firm if it had produced something else but not recorded in the balance sheet. Thus, in the article's framework, the EP is assumed to be the primary indicator of hotels' engagement in supporting employees and labour rights. The study hypothesis are the following:

- H1: Economic growth of hotels in Spain is a predictor of protection of labour rights (X2 = Target 8.1)
- H2: The financial situation of hotels in Spain impacts their willingness to protect labour rights (X1 - target 8.9)
- H3: Economic productivity of hotels in Spain is a predictor of protection labour rights (X3 = Target 8.2)
- H4: Government and associative support to socio-economic sustainability impacts on hotels' involvement in protecting labour

Table 3. Models descriptions and variables definition

| Variables                               |        |            |       |   |             |
|---|--------|------------|-------|---|-------------|
| Dependent variables – DV1, DV2, and DV3 |        |            |       |   |             |
| DV1 (Y1) EP *                           |        |            |       | Economic profitability (%) 2019 for 1497 cases, assuming that it encompasses the implicit costs | Continuous  |
| DV2 (Y2) EP **                          |        |            |       | Economic profitability (%) 2019 for 241 cases, assuming that it encompasses the implicit costs  | Continuous  |
| Predictors and covariates               |        |            |       |   |             |
| Predictors and covariates               | Target | Indicators | Codes | Designations  | Types       |
|   |        |            | C1    | City  | Categorical |
|   |        |            | C2    | Region  | Categorical |
|   |        |            | C3    | Peer Group Size   | Continuous  |
|   |        | 8.9.1      | IV1   | Indebtedness (%) 2019   | Continuous  |
|   |        |            | IV2   | Long-term debt (Th.) EUR 2019   | Continuous  |
|   |        |            | IV3   | Number of employees 2019  | Continuous  |
| P1                                      | 8.9    | 8.9.2      | IV4   | Distribution by sexes - Women 2019  | Continuous  |
|   |        |            | IV5   | Distribution by sexes - Men 2019  | Continuous  |
|   |        | 8.b.1      | IV6   | Grant type/dummy coded for Model 2  | categorical |

|      |     |       |      | Year grant                              | Categorica<br>l |
|------|-----|-------|------|---|-----------------|
|      |     |       | IV7  | Year grant                              |                 |
|      |     |       | IV8  | Return on Capital Employed (%) 2019     | Continuou<br>s  |
| P2   | 8.1 | 8.1.1 | IV9  | Net income th EUR 2019                  | Continuou<br>s  |
|      |     |       | IV10 | Profit Margin (%) 2019                  | Continuou<br>s  |
|      |     |       | IV11 | Profit per Employee (Th.) 2019          | Continuou<br>s  |
|      |     |       | IV12 | Oper. Rev. per Employee (Th.) 2019      | Continuou<br>s  |
| P3   | 8.2 | 8.2.1 | IV13 | Costs of employee / Oper. Rev. (%) 2019 | Continuou<br>s  |
|      |     |       | IV14 | Work. Capital per Employee (Th.) 2019   | Continuou<br>s  |
|      |     |       | IV15 | Total Assets per Employee (Th.) 2019    | Continuou<br>s  |
| *N1  |     |       |      | 1497 cases                              |                 |
| **N2 |     |       |      | 241 cases                               |                 |

There are three categories of predictors considered in the study P1, P2, and P3, all related to SDG 8 (refer to Table 3) (1) P1- are 7 variables (IV1-IV7, refer to table 1) under target 8.9 and 8.b and encompassing 3 indicators, 8.9.1, 8.9.2, and 8.b.1 (2) P2 – 3 variables under target 8.1, and indicator 8.1.1, (3) P3- 5 variables under target 8.2 and indicator 8.2.1. Besides, 3 categorical variables are used as covariates describing the DVs (C1-C3)

In addition, one of the variables is dummy coded 'Grant Type' into a binary one, with '0' companies with no grants related to employees' social-related assistance, and '1' companies which have had, at a period of time, grants for either of the following (1) employment promotion, (2) unemployment, and (3) social promotion. To verify the division of the grants into binary, as mentioned previously, the authors have gone manually through the description of the grant types provided in the database by SABI (2020) to eliminate the remaining categories.

The stepwise is that spss looks at the parametric metrics and chooses the independent variable with the most considerable Pearson correlation with the dependent variable in model 1. Then sequentially goes back to the semi-partial correlations and looks for the next most significant predictor until it stops with a non-significant predictor. Although critics exist related to the stepwise method (Thayer, 2002; Thompson, 1995), most are related to analysing or choosing the best-fit model.

Besides, the regressions' assumptions of multicollinearity, homoscedasticity, normality of distribution, and non-significance of outliers will be tested through SPSS. Thus, In the statistics chosen, to test the assumption of heteroscedasticity present when the variance associated with the residual of the

dependent variable are not homogeneous across levels of the independent variables, the strength of the prediction of the regression equation should be equally strong across all levels of the independent variables. Thus to verify this, the authors will plot the Zresidual (as Y-axis) and the Zpred (as X-axis) (refer to figure...). To check the assumption of multicollinearity, through the correlations table, the authors will study the relationship of the independent variables to each other, verifying both the tolerance and the variance inflation factors (VIF) (Aguinis et al., 2013; Mansfield & Helms, 1982; Thayer, 2002; Thompson, 1995).

### 3. RESULTS AND DISCUSSION

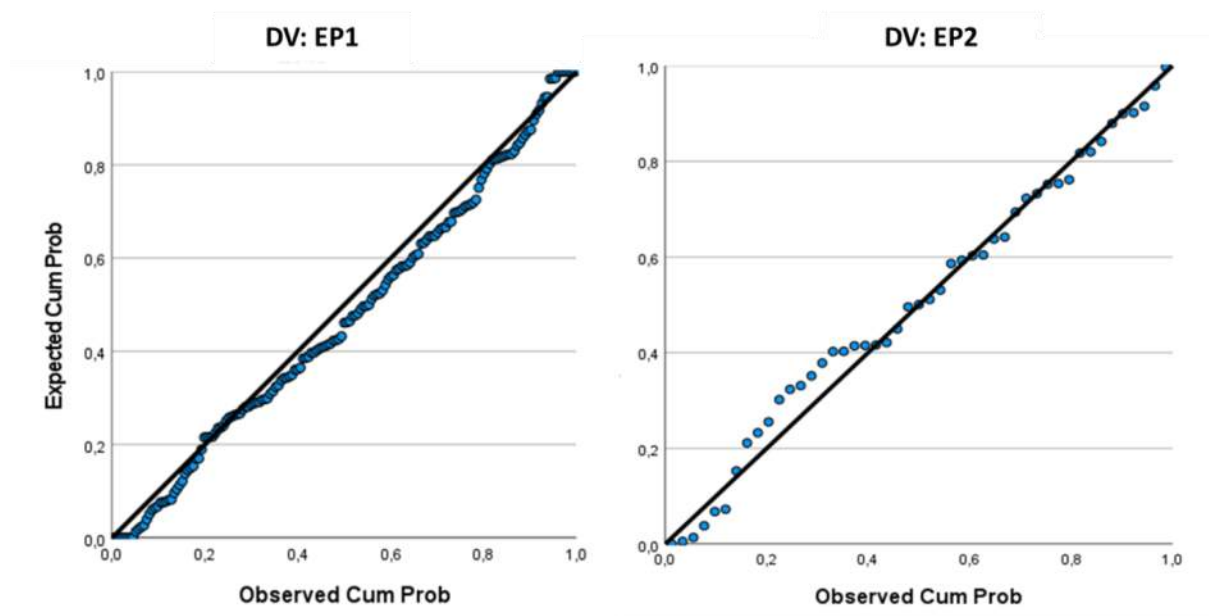
#### 3.1. Assumptions testing

In assessing the multicollinearity assumption, which examines the relationships among independent variables, it's important to consider tolerance values and Variance Inflation Factors (VIFs). In both regression analyses, tolerance exceeds 0.1. The VIFs fall within the ranges of [1.097–1.259] for regression 1 and [1.044–1.114] for regression 2. These values, falling between 1 and 10, as suggested by Aguinis et al. (2013), indicate the absence of multicollinearity. Consequently, there's no evidence of a significant correlation among the independent variables in either of the stepwise models within the two regressions.

Regarding the assumption of normality, according to the Normal pp plots (Figure 2 ), the dots are pretty much close to the line, for both regressions, which confirms the data and residuals are approximately normally distributed. The latter result is once more confirmed with the residuals' distribution. The Normal pp plots (Figure 2) indicate a close alignment of the data points with the reference line for both regressions. This alignment suggests that both the data and residuals follow approximately normal distributions. Additionally, confirmation of this result is found in the distribution of residuals, which further supports the conclusion of approximate normality.

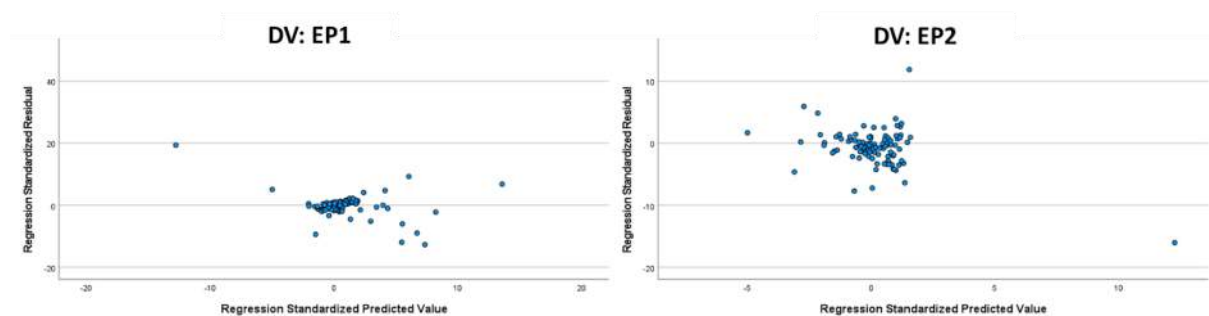


Figure 2. Normal P-P plots of Regression Standardised Residual EP1 Datasets 1 &amp; 2



Moreover, concerning heteroscedasticity, the scatterplots reveal a lack of outliers near the axis, indicating a favourable distribution. Points are evenly dispersed both above and below zero on the X-axis and to the left and right on the Y-axis. Hence, the data exhibits homoscedasticity, as illustrated in Figure 3.

Figure 3.



### 3.2. Stepwise regressions analysis

The stepwise regression with DV1 has ended up with 6 models (refer to table 4). They are all statistically significant (refer to table 3). Regarding model 6, there is an F value of 98.226 with 87 degrees of freedom in the residual and  $p < 0.001$ , thus the R2 value of model 6 is statistically significant. From the 14 independent variables, only 6 are predictors of Y1, and 8 are left out of the analysis.

According to table 4 Model 1, the 6 variables are significant predictors of the Y1. The ANOVA of the 6 models, with a focus on model 6 is significant with  $p < 0.001$  (refer to table 5).

The first model with an  $R^2 = 0.793$  assumes a 79.3 percent of correlation between the economic profitability and the return of capital employed. The last model, considered as the main result of the current regression, has a strong  $R^2 = 0.856$ . Thus, 85.6 percent of DV2 variance is explained by 'Return on Capital Employed', 'Indebtedness', 'Grant type', 'cost of employees', 'Distribution by sexes – Women work', and 'Capital per employee'. The latter variables under targets 8.1, 8.2, 8.9, and 8.b are predictors of economic profitability. Hypothesis 1 is accepted.

Table 4. *Stepwise Regressions Models and Coefficients*

| DV | Steps      | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig.  | Correlations |            |         | Collinearity Statistics |           |
|----|------------|-----------------------------|------------|---------------------------|--------|-------|--------------|------------|---------|-------------------------|-----------|
|    |            | B                           | Std. Error |                           |        |       | Beta         | Zero order | Partial | Part                    | Tolerance |
| 1  | (Constant) | 1745,439                    | 439,314    |                           | 3,973  | <,001 |              |            |         |                         |           |
| 1  | IV8        | 0,54                        | 0,029      | 0,892                     | 18,788 | <,001 | 0,892        | 0,892      | 0,892   | 1                       | 1         |
| 2  | (Constant) | 4130,793                    | 795,527    |                           | 5,193  | <,001 |              |            |         |                         |           |
| 2  | IV8        | 0,519                       | 0,028      | 0,857                     | 18,693 | <,001 | 0,892        | 0,892      | 0,837   | 0,953                   | 1,049     |
| 2  | IV1        | -0,047                      | 0,013      | -0,161                    | -3,512 | <,001 | -0,346       | -0,347     | -0,157  | 0,953                   | 1,049     |
| 3  | (Constant) | 4035,412                    | 777,21     |                           | 5,192  | <,001 |              |            |         |                         |           |
| 3  | IV8        | 0,514                       | 0,027      | 0,848                     | 18,905 | <,001 | 0,892        | 0,895      | 0,825   | 0,947                   | 1,056     |
| 3  | IV1        | -0,053                      | 0,013      | -0,182                    | -3,998 | <,001 | -0,346       | -0,39      | -0,175  | 0,915                   | 1,093     |
| 4  | IV6 B      | 1693,149                    | 718,78     | 0,105                     | 2,356  | 0,021 | 0,103        | 0,242      | 0,103   | 0,959                   | 1,043     |
| 4  | (Constant) | 4207,582                    | 758,066    |                           | 5,55   | <,001 |              |            |         |                         |           |
| 4  | IV8        | 0,49                        | 0,028      | 0,809                     | 17,498 | <,001 | 0,892        | 0,881      | 0,742   | 0,841                   | 1,189     |
| 4  | IV1        | -0,054                      | 0,013      | -0,187                    | -4,214 | <,001 | -0,346       | -0,41      | -0,179  | 0,914                   | 1,094     |
| 4  | IV6 B      | 1842,63                     | 700,736    | 0,114                     | 2,63   | 0,01  | 0,103        | 0,27       | 0,112   | 0,952                   | 1,051     |
| 4  | IV13       | 8,13E-12                    | 0          | 0,113                     | 2,514  | 0,014 | 0,384        | 0,259      | 0,107   | 0,883                   | 1,132     |
| 5  | (Constant) | 4005,516                    | 749,402    |                           | 5,345  | <,001 |              |            |         |                         |           |
| 5  | IV8        | 0,503                       | 0,028      | 0,83                      | 17,887 | <,001 | 0,892        | 0,887      | 0,744   | 0,802                   | 1,246     |
| 5  | IV1        | -0,052                      | 0,013      | -0,179                    | -4,096 | <,001 | -0,346       | -0,402     | -0,17   | 0,907                   | 1,103     |
| 5  | IV6 B      | 2065,389                    | 695,076    | 0,128                     | 2,971  | 0,004 | 0,103        | 0,304      | 0,124   | 0,93                    | 1,075     |
| 5  | IV13       | 7,65E-12                    | 0          | 0,107                     | 2,407  | 0,018 | 0,384        | 0,25       | 0,1     | 0,879                   | 1,138     |

|       |            |           |          |        |        |       |       |        |        |       |       |
|-------|------------|-----------|----------|--------|--------|-------|-------|--------|--------|-------|-------|
|       | IV4        | -0,151    | 0,071    | -0,092 | -2,126 | 0,036 | 0,077 | -0,222 | -      | 0,922 | 1,084 |
| 6     | (Constant) | 3947,079  | 737,106  |        | 5,355  | <,001 |       |        | 0,088  |       |       |
|       | IV8        | 0,509     | 0,028    | 0,84   | 18,31  | <,001 | 0,892 | 0,892  | 0,748  | 0,794 | 1,259 |
|       | IV1        | -0,049    | 0,012    | -0,17  | -3,944 | <,001 | -     | 0,346  | -0,391 | -     | 0,898 |
|       | IV6 B      | 2417,721  | 705,135  | 0,15   | 3,429  | <,001 | 0,103 | 0,347  | 0,14   | 0,873 | 1,145 |
|       | IV13       | 7,53E-12  | 0        | 0,105  | 2,41   | 0,018 | 0,384 | 0,252  | 0,099  | 0,879 | 1,138 |
|       | IV4        | -0,166    | 0,07     | -0,101 | -2,367 | 0,02  | 0,077 | -0,247 | -      | 0,912 | 1,097 |
|       | IV14       | -1,21E-05 | 0        | -0,086 | -2,016 | 0,047 | -     | 0,006  | -0,212 | -     | 0,911 |
|       |            |           |          |        |        |       |       |        | 0,082  |       | 1,097 |
| <hr/> |            |           |          |        |        |       |       |        |        |       |       |
| DV    |            |           |          |        |        |       |       |        |        |       |       |
| 2     |            |           |          |        |        |       |       |        |        |       |       |
| 1     | (Constant) | 5289,531  | 1414,877 |        | 3,739  | 0,001 |       |        |        |       |       |
|       | IV8        | 0,249     | 0,056    | 0,683  | 4,49   | <,001 | 0,683 | 0,683  | 0,683  | 1     | 1     |
| 2     | (Constant) | 15596,648 | 2321,981 |        | 6,717  | <,001 |       |        |        |       |       |
|       | IV8        | 0,209     | 0,04     | 0,573  | 5,222  | <,001 | 0,683 | 0,744  | 0,561  | 0,958 | 1,044 |
|       | IV1        | -0,172    | 0,035    | -0,54  | -4,917 | <,001 | -     | 0,657  | -0,724 | -     | 0,958 |
|       |            |           |          |        |        |       |       |        | 0,528  |       | 1,044 |
| 3     | (Constant) | 10984,883 | 2592,085 |        | 4,238  | <,001 |       |        |        |       |       |
|       | IV8        | 0,188     | 0,036    | 0,515  | 5,275  | <,001 | 0,683 | 0,755  | 0,493  | 0,916 | 1,091 |
|       | IV1        | -0,155    | 0,031    | -0,486 | -4,999 | <,001 | -     | 0,657  | -0,737 | -     | 0,923 |
|       |            |           |          |        |        |       |       |        | 0,467  |       | 1,084 |
| 4     | C2         | 493,15    | 173,668  | 0,279  | 2,84   | 0,01  | 0,52  | 0,527  | 0,265  | 0,904 | 1,106 |
|       | (Constant) | 8426,617  | 2446,93  |        | 3,444  | 0,003 |       |        |        |       |       |
|       | IV8        | 0,176     | 0,031    | 0,482  | 5,603  | <,001 | 0,683 | 0,782  | 0,457  | 0,899 | 1,113 |
|       | IV1        | -0,154    | 0,027    | -0,483 | -5,687 | <,001 | -     | 0,657  | -0,786 | -     | 0,923 |
|       |            |           |          |        |        |       |       |        | 0,464  |       | 1,084 |
|       | C2         | 457,84    | 152,16   | 0,259  | 3,009  | 0,007 | 0,52  | 0,558  | 0,246  | 0,898 | 1,114 |
|       | IV6        | 651,992   | 237,239  | 0,228  | 2,748  | 0,012 | 0,373 | 0,524  | 0,224  | 0,964 | 1,037 |

The regression with DV2 shows 4 models, all statistically significant. The ANOVA of the 4 models, is significant with  $p < 0.001$  (refer to table 5). R2 of the first model is equal to 0.467, assuming that 46.7% of the variance of the EP2 is explained by the return on capital employed. Furthermore, model 4 has an  $R^2 = 0.867$ , assuming 86.7% of the variance of EP2 is explained by 'the return on capital employed', 'Indebtedness', 'location of the company,' and 'grant type'.

Table 5. *Models' summary*

| DVs and Steps | R     | R Square | Adjusted R Square | Std. Error of Estimate | R Square Change | F Change | df 1 | df 2 | Sig. Change | F | Durbin-Watson |
|---------------|-------|----------|-------------------|------------------------|-----------------|----------|------|------|-------------|---|---------------|
| DV1           |       |          |                   |                        |                 |          |      |      |             |   |               |
| 1             | ,892a | 0,795    | 0,793             | 3228,116               | 0,795           | 352,994  | 1    | 91   | <,001       |   |               |
| 2             | ,905b | 0,82     | 0,816             | 3044,077               | 0,025           | 12,336   | 1    | 90   | <,001       |   |               |
| 3             | ,911c | 0,83     | 0,825             | 2969,948               | 0,011           | 5,549    | 1    | 89   | 0,021       |   |               |

|   |       |       |       |          |       |       |   |    |       |       |
|---|-------|-------|-------|----------|-------|-------|---|----|-------|-------|
| 4 | ,917d | 0,842 | 0,835 | 2884,953 | 0,011 | 6,321 | 1 | 88 | 0,014 |       |
| 5 | ,922e | 0,85  | 0,841 | 2828,944 | 0,008 | 4,519 | 1 | 87 | 0,036 |       |
| 6 | ,925f | 0,856 | 0,846 | 2780,376 | 0,007 | 4,066 | 1 | 86 | 0,047 | 1,949 |

a Predictors: (Constant), X2 Return on Capital Employed (%) 2019

b Predictors: Predictors: (Constant), X2 Return on Capital Employed (%) 2019, Indebtness (%) 2019

c Predictors: Predictors: (Constant), X2 Return on Capital Employed (%) 2019, Indebtness (%) 2019, Grant Type B

d Predictors: (Constant), X2 Return on Capital Employed (%) 2019, Indebtness (%) 2019, Grant Type B

e Predictors: (Constant), X2 Return on Capital Employed (%) 2019, Indebtness (%) 2019, Grant Type B, Cost of employees th EUR 2019, Distribution by sexes - Women 2019

f Predictors: Predictors: (Constant), X2 Return on Capital Employed (%) 2019, Indebtness (%) 2019, Grant Type B, Cost of employees th EUR 2019, Distribution by sexes - Women 2019, Work. Capital per Employee (Th.) 2019

DV2

|   |       |       |       |          |       |        |   |    |       |       |
|---|-------|-------|-------|----------|-------|--------|---|----|-------|-------|
| 1 | ,683a | 0,467 | 0,444 | 5929,339 | 0,467 | 20,156 | 1 | 23 | <,001 |       |
| 2 | ,864b | 0,746 | 0,723 | 4184,716 | 0,279 | 24,175 | 1 | 22 | <,001 |       |
| 3 | ,904c | 0,817 | 0,79  | 3640,862 | 0,07  | 8,063  | 1 | 21 | 0,01  |       |
| 4 | ,931d | 0,867 | 0,84  | 3178,559 | 0,05  | 7,553  | 1 | 20 | 0,012 | 1,953 |

a Predictors: (Constant), X2 Return on Capital Employed (%) 2019

b Predictors: (Constant), X2 Return on Capital Employed (%) 2019, Indebtness (%) 2019

c Predictors: (Constant), X2 Return on Capital Employed (%) 2019, Indebtness (%) 2019, Regions

d Predictors: (Constant), X2 Return on Capital Employed (%) 2019, Indebtness (%) 2019, Regions, Grant Type

The results confirm that the significant EP1 predictors are IV1, IV4, and IV6 under P1, IV8 under P2, and IV13 and IV14 under P3. Therefore, the company's financial situation in terms of indebtedness and return on capital employed impacts the company's economic profitability and, thus, the willingness of hotels to adopt the protection of labour rights. The more companies employ women and the less indebted they are, the more aware they are of labour protection and rights. Similarly, IV1 and IV6, under P1, and IV8, under P2, are the major predictors of EP2. However, in model 2, all the P3 variables are excluded for non-significance, leading to a statement that for companies that had grants related to employees' social-related assistance, all the variables about employees profit, operating revenue, assets and work capital do not impact on their willingness to adopt protection of labour rights. Thus, hypotheses 1 and 2 are accepted, and hypothesis 3 is rejected. Besides, the regions of the companies are also predictors of EP2. The results show that the grant types impact the EP. Thus, hypothesis 4 is accepted.

Table 6. ANOVA

| Models<br>a |            | Sum<br>Squares | of<br>df | Mean<br>Square | F       | Sig.   |
|-------------|------------|----------------|----------|----------------|---------|--------|
| 1           | Regression | 3678454794     | 1        | 3678454794     | 352,994 | <,001b |
|             | Residual   | 948286911      | 91       | 10420735,29    |         |        |
|             | Total      | 4626741705     | 92       |                |         |        |
| 2           | Regression | 3792765202     | 2        | 1896382601     | 204,651 | <,001c |
|             | Residual   | 833976503      | 90       | 9266405,592    |         |        |
|             | Total      | 4626741705     | 92       |                |         |        |
| 3           | Regression | 3841708913     | 3        | 1280569638     | 145,18  | <,001d |
|             | Residual   | 785032792      | 89       | 8820593,167    |         |        |
|             | Total      | 4626741705     | 92       |                |         |        |
| 4           | Regression | 3894321728     | 4        | 973580431,9    | 116,975 | <,001e |
|             | Residual   | 732419977      | 88       | 8322954,289    |         |        |
|             | Total      | 4626741705     | 92       |                |         |        |
| 5           | Regression | 3930487077     | 5        | 786097415,4    | 98,226  | <,001f |
|             | Residual   | 696254628      | 87       | 8002926,76     |         |        |
|             | Total      | 4626741705     | 92       |                |         |        |
| 6           | Regression | 3961919348     | 6        | 660319891,3    | 85,418  | <,001g |
|             | Residual   | 664822357      | 86       | 7730492,526    |         |        |
|             | Total      | 4626741705     | 92       |                |         |        |

a Dependent Variable: Y1

b Predictors: (Constant), IV8

c Predictors: (Constant), IV8, IV1

d Predictors: (Constant), IV8, IV6, IV1

e Predictors: (Constant), IV8, IV1, IV6, IV13

f Predictors: (Constant), IV8, IV1, IV6, IV13, IV4

g Predictors: (Constant), IV8, IV1, IV6, IV13, IV4

| Models<br>h |            | Sum<br>Squares | of<br>df | Mean<br>Square | F      | Sig.   |
|-------------|------------|----------------|----------|----------------|--------|--------|
| 1           | Regression | 708623430      | 1        | 708623430,3    | 20,156 | <,001i |
|             | Residual   | 808612429      | 23       | 35157062,14    |        |        |
|             | Total      | 1517235859     | 24       |                |        |        |
| 2           | Regression | 1131975157     | 2        | 565987578,3    | 32,32  | <,001j |
|             | Residual   | 385260703      | 22       | 17511850,13    |        |        |
|             | Total      | 1517235859     | 24       |                |        |        |
| 3           | Regression | 1238862420     | 3        | 412954140      | 31,153 | <,001k |
|             | Residual   | 278373439      | 21       | 13255878,07    |        |        |
|             | Total      | 1517235859     | 24       |                |        |        |
| 4           | Regression | 1315171156     | 4        | 328792788,9    | 32,543 | <,001l |
|             | Residual   | 202064704      | 20       | 10103235,19    |        |        |
|             | Total      | 1517235859     | 24       |                |        |        |

h Dependent Variable: Y2

i Predictors: IV8  
j Predictors: (Constant), IV8, IV1  
k Predictors: (Constant), IV8, IV1, C2  
l Predictors: (Constant), IV8, IV1, IV6, C2

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#### 4. CONCLUSION AND IMPLICATIONS

The study emphasises the importance of SDGs and CSR in influencing the priorities of businesses, particularly within the tourism and hospitality industry. The literature has noticed the proactive alignment of CSR strategies by major hotel chains such as NH Hotel Group and Marriott International with SDGs, underscoring a burgeoning dedication within the private sector towards fostering sustainable development.

Hotels are pivotal contributors to job creation and economic vitality, especially within local destination networks, thus, nurturing economic progress and bolstering community welfare. Through rigorous regression analysis, notable predictors emerge that influence hotels' commitment to Sustainable Development Goal 8, notably Target 8.8, which prioritises safeguarding labour rights and ensuring secure work environments. Hence, a company's economic profitability, as reflected in its level of indebtedness and return on capital employed, directly influences its economic profitability. Consequently, this financial standing significantly influences hotels' inclination towards the implementation of labour rights protection. Moreover, companies demonstrating a higher proportion of female employees and lower levels of indebtedness exhibit heightened awareness and commitment towards labour protection and rights. Interestingly, for companies benefiting from grants associated with employee social assistance, traditional financial metrics such as employee profit, operating revenue, assets, and working capital do not exert a notable influence on their propensity to prioritize labour rights protection. Furthermore, the findings underscore the substantial impact of grant types on economic profitability, thereby highlighting the significance of external financial support in shaping hotels' engagement with labour rights protection initiatives.

While the study has made valuable contributions to our understanding, it is imperative to recognise its inherent limitations. Future investigations may probe in depth unexplored variables influencing hotels' sustainability and their impact on SDGs. The use of the longitudinal approaches could offer nuanced insights into the evolving relationship dynamics among hotels, CSR initiatives, and the attainment of SDGs across different panels. Moreover, incorporating qualitative methodologies alongside quantitative analyses could enrich our comprehension of the complex relationship between firms' strategies, societal needs, and environmental necessities. Therefore, future research could

encompass interviews with hotel businesses to pinpoint more valuable qualitative data enriching such studies.

The study's outcomes propose considerable implications for policymakers, industry stakeholders, and hotel managers. Regarding policymakers, they are encouraged to develop supportive frameworks that facilitate business alignment with SDGs, fostering environments that foster sustainable practices. Meanwhile, hotel managers can use these findings to refine their CSR strategies, prioritising the protection of labour rights, enhancing employees' well-being, and adopting sustainable practices throughout their operations.

The study contributes to the existing literature by investigating the complex relationship between hospitality and tourism, CSR, and SDGs. It stresses private sector engagement's pivotal role in driving sustainable development initiatives. By identifying the important factors shaping hotels' commitment to SDG 8, the study provides stakeholders with valuable insights to foster effective collaboration to drive economic growth, promote social inclusivity, and protect labour rights within the hospitality industry. Consequently, the study's findings extend beyond sectoral sustainability, positively impacting broader societal well-being and contributing significantly to the realisation of sustainable development objectives on a global scale.

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## BEYOND CASH: ANALYZING COVID-19'S INFLUENCE ON US DIGITAL PAYMENT ADOPTION

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### ABSTRACT

The COVID-19 pandemic significantly altered consumer behaviour around the world, particularly in the realm of payment methods. This study aims to evaluate the impact on consumer payment habits in the United States. A survey conducted by Dynata between December 2021 and January 2022, involving 736 U.S. residents, served as the primary data source. Using structural equation modeling (SEM), the analysis highlighted that concerns about COVID-19 and media-induced fear were crucial in accelerating the adoption of cashless payment systems. These findings are crucial for businesses and policymakers as they navigate the post-pandemic environment and adapt to evolving consumer preferences. Originality lies in its timely assessment of payment behaviour during a significant global event, offering valuable insights for future strategies.

*Keywords: Digital payment, Payment behaviour, Cashless society, consumer habits, Behavioural economics, SEM.*

### 1. INTRODUCTION

"Change is the law of life. And those who look only to the past or the present miss the future." (John F. Kennedy).

Recent years have witnessed significant changes in consumer behaviour, particularly in payment methods. This article aims to investigate the variables influencing consumer attitudes towards cashless payments in the United States, focusing on the period between December 2021 and January 2022. The objectives of this study are twofold: (a) to examine the relationship between health-related concerns and attitudes toward cashless payments, and (b) to investigate how media-induced fear influences individuals to adopt cashless payment methods.

Various factors have propelled a transition towards digital and contactless payments. For example, a survey by the National Retail Federation in 2020 revealed a preference for contactless payment methods among 67% of consumers, citing concerns about touching common surfaces. Additionally, the Federal Reserve reported a decline in cash transactions during the same period. Contactless

payments, which offer security and convenience, have gained popularity, with 79% of consumers worldwide adopting them, according to Mastercard. Furthermore, mobile payment usage in the US increased by 29% as consumers sought alternatives to traditional cash or card payments.

This article reports the findings of a survey conducted among 736 US residents, providing valuable information on the emotional and financial factors driving behaviour during periods of increased concern. The structure includes a review of the current literature on payment decisions, followed by a discussion of research hypotheses. Subsequently, the methodology, results, and conclusions are presented, including findings, limitations, and future research directions.

This study aims to provide valuable information on the ongoing transformation of payment practices. The findings of this research are crucial for businesses and policymakers as they navigate the evolving landscape of consumer preferences and adapt to new payment behaviours.

## **2. REVIEW OF THE LITERATURE AND DEVELOPMENT OF RESEARCH HYPOTHESES**

### *2.1 The Impact of External Shocks on Payment Decisions*

Consumer payment behaviour significantly impacts the real economy and the efficiency of the payment system (Humphrey et al., 2006; Zhang et al., 2019). Research in this area has been steadily growing since the 1980s, with Boeschoten and Fase's seminal work in 1989 marking its inception (Wisniewski et al., 2021). The COVID-19 pandemic offers a unique lens for exploring how external shocks, coupled with government, bank, and retailer interventions, influence changes in payment behaviour and preferences (Jonker et al., 2022).

Brown et al. (2022) studied the quasi-random and staggered introduction of contactless debit cards by a retail bank. Using account-level data and comparing transactions eligible for contactless authentication among those who are not eligible, they found a significant convenience effect in the use of debit cards at the intensive margin. In particular, comfort elasticity seems to be stronger in younger clients. Furthermore, the impact of the treatment increased over time, coinciding with increasing merchant acceptance, and the impact on cash demand is economically small and not statistically significant.

Moreover, Chen et al. (2023) conducted a study to analyse the primary variable "intention to use" the Apple Wallet mobile payment system in the United Arab Emirates (UAE) and to evaluate various factors influencing its use. The study focused on several key variables: user skillfulness, perceived usefulness, convenience of the system, perceived risk, and intention to use. Using structural equation modeling, the study surveyed 422 respondents. The findings revealed that user skillfulness had the most significant impact on the intention to use the payment system, followed by perceived usefulness

and convenience. Perceived risk had a weak negative effect on the intention to use, likely mitigated by the UAE's high cybersecurity index.

Elsotouhy et al. (2023) investigated how perceived value and trade-offs affect customer satisfaction with mobile payment services. Through structural equation modeling and data from 430 Egyptian bank customers, they demonstrated that perceived value enhances user satisfaction, while trade-offs diminish it. Additionally, user satisfaction significantly influences intentions to continue using the service, shopping efficiency, overall quality of life, and loyalty to mobile payment services.

Graziano et al. (2023) conducted an empirical study aimed at identifying the drivers affecting consumers' payment behaviour in Italy during the COVID-19 lockdown. They collected data from 2,872 consumers between May 2020 and June 2020 using computer-assisted web interviewing methodology. Structural equation modeling and ordinary least squares regression analysis were employed for analysis. The study found a significant positive effect of COVID-19 concerns on consumer payment behaviour. This work stands out for its creative approach to investigating the financial and social consequences of the COVID-19 crisis, as well as proposing solutions to encourage the adoption of innovative payment tools.

He et al. (2023) examined the effects of adoption of mobile payments on household expenditure and subjective well-being using data from the 2017 Chinese General Social Survey. Using the Augmented Inverse Probability Weighting estimator to control for selection bias, they found that higher education levels, car ownership, social interaction, internet penetration, and residential location positively influenced mobile payment adoption. The adoption of mobile payments increased spending on consumer goods and cultural and leisure activities, but did not influence spending on clothing and durable goods.

Alaimo et al. (2022) examined customer satisfaction with online food ordering in Italy amidst the pandemic. Using an online questionnaire, the study measured two dimensions of customer satisfaction. The findings suggest that online purchases could mitigate food waste and introduce a satisfaction metric that impacts e-commerce sales strategies.

Finally, Ramos de Luna et al. (2023) discovered that perceived safety, perceived usefulness, perceived compatibility, and subjective norms significantly influence intention to use, with subjective norms being particularly important when a user has the option of mobile payment and adequate information.

These issues lead to Hypothesis 1.

*H1: The adoption of cashless payments is affected by concerns that arise in the aftermath of the pandemic.*

## **2.2 Influence of post-pandemic social media anxiety on attitudes towards cashless payments**

The global health crisis and the subsequent measures taken to combat it have left a profound mark on everyday life. Recent research by the Pew Research Center, tracking the responses of Americans over time, indicates that a significant portion of the population, about four in ten adults in the US (41%) have experienced higher levels of psychological distress since the emergence of the coronavirus pandemic. The anxieties that stem from the virus itself, coupled with the stresses and uncertainties caused by lockdowns and social distancing mandates, have all contributed to exacerbating mental health problems across society (Mertens et al., 2020).

The dissemination of misinformation surrounding COVID-19 has further compounded these challenges, with narratives such as the "Chinese virus" and misguided suggestions about the use of disinfectants as a cure (Wen et al., 2019; Zheng et al., 2020) contributing to people's concerns about health and well-being.

Turangan et al. (2022) examined whether existing technology anxiety and social influence factors will influence the Indonesian population's intention to continue using mobile payments. Interviewing 140 people and using the PLS-SEM technique and the Smart PLS analysis tool version 3.0, they found that technological anxiety and social influence the intention of the Indonesian population to continue using mobile payments.

Moreover, Chaudhuri et al. (2023) delved into the impact of consumer privacy concerns on their willingness to share online information, while also examining the role of government regulations in shaping these dynamics. Through a comprehensive review of the existing literature and theories, the researchers constructed a theoretical framework. This framework was then validated using data collected from 309 participants, using the method of least squares structural equation modeling method. The study revealed that individuals' awareness of privacy, their past experiences, personal characteristics, and cultural backgrounds all significantly contribute to their concerns regarding privacy, subsequently influencing their decisions regarding information sharing. Moreover, the research underscored the influence of government regulations on individuals' choices regarding the disclosure of information.

Finally, the research conducted by Wang et al. (2021) scrutinised the effects of social media on people in China, highlighting the tendency of users to be negatively influenced by sensational news. Specifically, the study investigated how social media anxiety negatively impacts employee performance, while also exploring the role of COVID-19 vaccination in moderating this relationship.

These issues lead to Hypothesis 2.

*H2: Fear and anxiety generated by COVID-19 media coverage directly impact consumer payment behaviour.*

### **3 METHODOLOGY**

#### ***3.1 Data collection***

Data for this study were analysed through a survey conducted in the United States between December and January 2022. The data collection was facilitated by the reputable American market research company "Dynata". Utilising the services of "Dynata" ensured the quality and reliability of the data collected, given their expertise and established methodologies in market research. The survey was distributed to approximately 1,000 individuals, resulting in 760 responses. Participants received an anonymous questionnaire to guarantee the confidentiality and privacy of their responses. This questionnaire originally consisted of a total of 40 questions. However, to conduct a more focused and efficient analysis for this study, 20 questions were selected and distributed in three subject areas in a weighted manner. This reduction was implemented to gather information more aligned with the study objectives, ensuring robustness and validity in the results obtained.

In addition to survey processing, structural equation modeling (SEM) was employed to further investigate the relationships between the variables. SEM was chosen as the analytical technique due to its ability to simultaneously examine multiple dependent and independent variables, providing a comprehensive understanding of complex relationships within the dataset. Moreover, SEM allows for the examination of latent constructs, providing insights into underlying factors that may not be directly observable. This approach was deemed suitable for the study's objectives, as it enabled the exploration of various factors influencing consumer attitudes towards cashless payments in the post-pandemic era, offering a robust analytical framework for hypothesis testing and model validation.

#### ***3.2 Survey results***

The first of the areas described above is related to concerns about COVID-19. In this section, we have included some of the questions used by the World Health Organisation (WHO) in the months following the beginning of 2019. The version of the questionnaire used is the "Survey Tool and Guidance: Behavioural Insights on COVID-19." From this original version, we have selected only a few questions that we find particularly useful for the purposes of our work. This section consists of four questions, shown in Figure 1, with responses recorded using a 7-point Likert scale, where 1 represents "not at all concerned" and 7 represents "very concerned".

Figure 1. COVID-19 Worries Questions

| Questions | How often do you seek information about COVID-19 in the media? | How reliable do you consider media reports (TV, newspapers, etc.) on COVID-19 to be? | How worried are you about getting infected with COVID-19? | How worried are you that someone close to you may get sick from COVID-19? |
|-----------|--|--|---|---|
| AVERAGE   | 4,29   | 4,11   | 4,41  | 4,79  |
| MEDIAN    | 5  | 5  | 5   | 5   |
| RANGE     | 1-7  | 1-7  | 1-7   | 1-7   |

Source: World Health Organisation (WHO) (2020)

The results indicate that more than half of the respondents regularly seek information about COVID-19 in the media and consider it highly reliable. Furthermore, the average of the last two responses is relatively high. Respondents expressed concern about contracting the virus themselves and about the possibility that their loved ones would become infected.

Furthermore, Figure 2 shows the results of a survey designed to assess the payment preferences of respondents, irrespective of the possession of payment instruments. Preferences are expressed on a Likert scale from 1 to 7. Cash emerges as the most preferred payment method with a score of 5.20. It is closely followed by the debit card with 5.13 and then the credit card and payment apps, both with a score of 4.81. Contactless payments have a slightly lower score of 4.66. Question Q20, which assesses the influence of the Covid-19 pandemic on the preference for digital payments over cash, scored an average of 4.60, indicating that the pandemic had a moderate impact in driving people towards digital payments over the use of banknotes. In summary, traditional payment methods such as cash and debit cards are still popular, but there is also good acceptance for digital payments, partly influenced by the pandemic.

Figure 2. Payment preferences questions

|                     | Coding  | Questions  | Options/Range  | Average/Range   |
|---------------------|---------|--|--|---|
| Payment preferences | Q15-Q19 | How do you rate these various means of payment independently of whether you own them or not?             | a. Cash (1-7)<br>b. Credit Card (1-7)<br>c. Debit Card (1-7)<br>d. Contactless (1-7)<br>e. Payment App (1-7) | Answer A = 5.20<br>Answer B = 4.81<br>Answer C = 5.13<br>Answer D = 4.66<br>Answer E = 4.81 |
|                     | Q20     | From 1 to 7, how has the Covid-19 pandemic led you to prefer digital payment instruments over banknotes? | 4.60   | 4.60  |

Source: Van der Cruijssen et al. (2017), Rocco, G. (2019), and the authors' elaboration

In addition, we add another section to capture sociodemographic data of the sample such as age, gender, marital status, region of residence, size of community of residence, education level, occupation, net income, and number of online purchases per month. These variables are crucial to understanding the diverse backgrounds and behaviours of the participants. Analysing these data will allow for more accurate and comprehensive insights into how different sociodemographic factors influence online purchasing habits.

Figure 3. Descriptive Results

| Variables                                    | Options                     | No  | Percentage % |
|--|-----------------------------|-----|--------------|
| Range Age                                    | 18 – 25 years old           | 146 | 19,2%        |
|  | 26 – 35 years old           | 171 | 22,5%        |
|  | 36 – 45 years old           | 173 | 22,8%        |
|  | 46 – 55 years old           | 102 | 13,4%        |
|  | 56 – 65 years old           | 64  | 8,4%         |
|  | 66 – 75 years old           | 80  | 10,5%        |
|  | > 75 years old              | 24  | 3,2%         |
| Gender                                       | Male                        | 377 | 49,6%        |
|  | Female                      | 379 | 49,9%        |
|  | Prefer not to say           | 4   | 0,5%         |
| Ethnicity                                    | Black or African American   | 132 | 17,4%        |
|  | White                       | 533 | 70,1%        |
|  | Hispanic                    | 61  | 8,0%         |
|  | Asian                       | 22  | 2,9%         |
|  | Other                       | 12  | 1,6%         |
| Civil Status                                 | Married                     | 316 | 41,6%        |
|  | Single/Unmarried            | 322 | 42,4%        |
|  | Divorced/Separated          | 94  | 12,4%        |
|  | Widowed                     | 28  | 3,6%         |
| Region of living                             | North-East                  | 135 | 17,8%        |
|  | Midwest                     | 154 | 20,3%        |
|  | South                       | 122 | 16,1%        |
|  | West                        | 349 | 45,8%        |
| Number of inhabitants where you usually work | Less than 5.000             | 92  | 12,1%        |
|  | Between 5.000 and 15.000    | 115 | 15,1%        |
|  | Between 15.000 and 50.000   | 179 | 23,6%        |
|  | Between 50.000 and 200.000  | 163 | 21,4%        |
|  | Between 200.000 and 500.000 | 68  | 8,9%         |
|  | More than 500.000           | 143 | 18,9%        |



Source: Authors Elaboration

Figure 4. Descriptive Results

| <b>Variables</b>  | <b>Options</b>             | <b>No</b> | <b>Percentage %</b> |
|---|----------------------------|-----------|---------------------|
| <b>Education</b>  | Elementary school          | 2         | 0,3%                |
|   | Middle school              | 8         | 1,1%                |
|   | High school                | 306       | 40,3%               |
|   | Undergraduate studies      | 237       | 31,2%               |
|   | Graduate Schools           | 157       | 20,7%               |
|   | PhD                        | 25        | 3,3%                |
|   | Other: specify             | 25        | 3,1%                |
| <b>Work Status</b>  | Full-Time Work             | 330       | 43,4%               |
|   | Part- Time Work            | 98        | 12,9%               |
|   | Students                   | 35        | 4,6%                |
|   | Unemployed                 | 75        | 9,9%                |
|   | Stay at Home               | 57        | 7,5%                |
|   | Retired                    | 115       | 15,1%               |
|   | Disabled or Unable to work | 46        | 6,1%                |
|   | Other: Specify             | 4         | 0,5%                |
| <b>What was your net income last year?</b>                                | Less than \$9.999          | 63        | 8,3%                |
|   | \$10.000 - \$24.999        | 132       | 17,4%               |
|   | \$25.000 - \$39.999        | 151       | 19,9%               |
|   | \$40.000 - \$69.999        | 186       | 24,5%               |
|   | \$70.000 - \$100.000       | 96        | 12,6%               |
|   | \$100.000 or more          | 100       | 13,2%               |
|   | Prefer not to say          | 32        | 4,1%                |
| <b>How many times in a month do you buy goods or use services online?</b> | 0 times                    | 80        | 10,5%               |
|   | From 1 to 3                | 381       | 50,1%               |
|   | From 4 to 7                | 174       | 22,9%               |
|   | More than 7 times          | 125       | 16,5%               |

Source: Authors Elaboration

## 4 RESULTS

This section discusses the results of the multivariate analysis, focusing on the structural equation modeling (SEM) technique employed to investigate the factors determining consumers' payment preferences. The methodology involved several steps to ensure the robustness and validity of the model. First, only a subset of the questionnaire is included in the analysis. SEM was estimated using the R package lavaan. Second, only items that were measured with a 7-point Likert scale were considered, which was then reduced to 3 points to avoid calculation problems due to data scatter. Then, only significant variables were retained for the model. The variables included, their dimension of affiliation in the questionnaire and their expressions are shown in Figure 5.

Figure 5. List of variables included in the model

| DIMENSION                  | ITEM       | VARIABLE IN THE MODEL   | STATES      |
|----------------------------|------------|---|-------------|
| <i>COVID-19 WORRIES</i>    | <i>Q11</i> | How often do you seek information about COVID-19 in the media?                                  | from 1 to 3 |
|                            | <i>Q12</i> | How reliable do you consider media reports (TV, newspapers, etc.) on COVID-19 to be?            | from 1 to 3 |
|                            | <i>Q13</i> | How concerned are you about contracting COVID-19?   | from 1 to 3 |
|                            | <i>Q14</i> | How worried are you that someone close to you may become ill from COVID-19?                     | from 1 to 3 |
| <i>PAYMENT PREFERENCES</i> | <i>Q16</i> | How do you rate payment by credit card?   | from 1 to 3 |
|                            | <i>Q17</i> | How do you rate contactless payment?  | from 1 to 3 |
|                            | <i>Q19</i> | How do you rate payment by mobile app?  | from 1 to 3 |
|                            | <i>Q20</i> | How has the COVID-19 pandemic influenced your preference for digital payment methods over cash? | from 1 to 3 |

### 4.1 Measurement Model Results

In an SEM, the measurement model is a confirmatory factor analysis (CFA), which tests the relationships between observed variables (indicators) and latent factors (dimensions of the questionnaire). To ensure the validity of the measurement model, items with standardised factor loadings greater than 0.5 and  $R^2$  values greater than 0.4 were considered significant.

The resulting measurement model confirmed the validity of latent factors, including concerns about COVID-19, anxiety over social media, and attitudes towards cashless payments.

Reliability analysis revealed satisfactory Cronbach's alpha values, indicating good internal consistency among the items within each latent factor. The status of the measurement model is shown in Figure 6.

Figure 6. Measurement Model Results

| Latent Factor (alpha=0.73)             | Items | Estimate | Std. Err | z-value | P(> z ) | Std. lv | Std. all | R <sup>2</sup> |
|--|-------|----------|----------|---------|---------|---------|----------|----------------|
| Covid_Worries (alpha=0.84)             | Q11   | 1.000    |          |         |         | 0.974   | 0.974    | 0.948          |
|  | Q12   | 0.885    | 0.033    | 26.936  | 0.000   | 0.862   | 0.862    | 0.743          |
| Social_media_Anxiety (alpha=0.84)      | Q13   | 1.000    |          |         |         | 0.807   | 0.807    | 0.651          |
|  | Q14   | 1.007    | 0.038    | 26.520  | 0.000   | 0.813   | 0.813    | 0.661          |
| Cashless_Payment_attitude (alpha=0.63) | Q16   | 1.000    |          |         |         | 0.458   | 0.512    | 0.410          |
|  | Q17   | 1.416    | 0.133    | 10.619  | 0.000   | 0.648   | 0.648    | 0.420          |
|  | Q19   | 1.774    | 0.157    | 11.317  | 0.000   | 0.812   | 0.812    | 0.660          |
|  | Q20   | 1.692    | 0.153    | 11.094  | 0.000   | 0.775   | 0.775    | 0.600          |

The observed items related to COVID concerns and social media anxiety are statistically significant ( $p$ -value < 0.05), with standardised factor loadings greater than 0.5 and R<sup>2</sup> values greater than 0.4. Thus, these elements contribute to the construction of the corresponding latent factors. Therefore, we consider the confirmed measurement model. The resulting collection of latent components states the following:

- Worries about virtual reality are mostly related to getting sick, while social network anxiety is caused by communication. Two different latent variables were examined for inclusion in the same dimension of the survey.
- The attitude towards cashless payment is a subset of questions that capture the function and relevance of cashless payment.

In addition, Figure 6 shows the reliability values for each latent factor. Reliability can be interpreted as internal consistency, i.e. the extent to which a set of items is coherent in measuring the same construct. Usually, internal consistency is measured by Cronbach's alpha. Following Hair et al. (2019), we interpret a very good set of items with an alpha greater than 0.8 and as moderately coherent a set of items where the alpha is greater than 0.6. After estimating the measurement model, the research hypotheses were tested by implementing the structural model as described below.

#### 4.2 SEM Results

The SEM structural model was used to compare latent variables and reveal the underlying relationships between concepts in the data set. Fit indices, including Chi square, root mean square error of approximation (RMSEA), standardised root mean square of the residuals (SRMR), goodness-of-fit index (GFI), comparative fit index (CFI), and Tucker-Lewis index (TLI), were used to assess the fit of the model. The Chi-square ( $\chi^2$ ) calculates the difference between the proposed covariance matrix of the model and the original covariance matrix; a p-value greater than 0.5 indicates a best fit.

According to some authors, the index may fail when the sample size is large (Bentler & Chou, 1990; Marsh, Balla, & McDonald, 1988), as in our case. The root mean square error of approximation (RMSEA) evaluates the difference of the model per degree of freedom. In general, a value of 0 indicates a best fit, a value between 0.05 and 0.08 indicates a small error, and a value greater than 0.08 indicates that the model can be discarded. The standardised root mean square of the residuals (SRMR) assesses the amount of variation included in the covariance matrix. A value < of 0.06 indicates optimal fitting. The goodness-of-fit index (GFI) calculates the proportion of observed variation that can be explained by the predicted model. The closer to 1, the better the fit. The amount of variation contained in a covariance matrix is represented by the comparative fit index (CFI). If the index is 0.95, the model is good. The Tucker-Lewis index (TLI) is a non-normalised fit index that does not depend on the sample size. It is acceptable to use a model with a TLI of 0.90. The GOF indices for the structural model tests presented in Figure 7 meet the usual thresholds with a significant chi-square test. Furthermore, the low values of RMSEA and SRMR indicate an optimal fit of the structural equation modeling.

*Figure 7. SEM GOF Results*

| Index   | Value       |
|---|-------------|
| Chi-Squared (2)                                 | 0.000       |
| Root Mean Square Error of Approximation (RMSEA) | 0.050-0.065 |
| Standardized Root Mean Square Residual (SRMR)   | 0.058       |
| Goodness-of-Fit-Index (GFI)                     | 0.996       |
| Comparative Fit Index (CFI)                     | 0.992       |
| Tucker-Lewis Index (TLI)                        | 0.990       |

The status of the hypothesis is assessed using the coefficient estimates in the SEM model shown in Figure 8.

*Figure 8. Status of the Hypothesis*

| Predictor            | Dependent                 | Estimate | SE    | p-value | Status       |
|----------------------|---------------------------|----------|-------|---------|--------------|
| Covid-19_Worries     | Cashless_Payment_Attitude | 0.150    | 0.167 | 0.000   | H1 supported |
| Social_Media Anxiety | Cashless_Payment_Attitude | 0.055    | 0.035 | 0.000   | H2 supported |

As illustrated, the first row of Figure 8 indicates a positive correlation between COVID-19 concerns and the adoption of cashless payments, with a coefficient of 0.150. This implies that people who have heightened concerns about COVID-19 are more likely to prefer cashless payment methods. This association can be attributed to various factors, including the desire to minimise physical contact with surfaces and individuals, concerns about virus transmission through cash handling, and an increased reliance on digital transactions for safety and convenience amidst the pandemic. Consequently, the findings confirm Hypothesis H1, underscoring a significant and meaningful association between COVID-19 concerns and the inclination towards cashless payment methods.

In the second row of the figure, a positive relationship is observed between social media anxiety and attitudes towards cashless payments, although this correlation is weaker compared to the association between COVID-19 concerns and attitudes towards cashless payments. This indicates that individuals experiencing higher levels of anxiety from social networks may still exhibit a tendency toward embracing cashless payment methods, although to a lesser extent than those influenced by COVID-19 concerns. Therefore, the findings support Hypothesis H2, indicating a significant relationship between social media anxiety and attitudes towards cashless payments.

In general, the results suggest that both COVID-19 concerns and anxiety related to social media play a role in shaping individuals' perceptions of cashless payments. However, it is evident that COVID-19 concerns have a more pronounced impact on attitudes toward cashless payments compared to anxiety related to social media.

## 5 DISCUSSION AND CONCLUSIONS

The findings of this research underscore the significant influence of the COVID-19 pandemic on consumer payment choices in the United States, particularly in accelerating the adoption of electronic payment methods. This change was mainly driven by increased anxiety and concerns about security, both originating from the pandemic itself and spreading through social media channels. Despite pre-

existing familiarity with digital payments among Americans, the pervasive fear surrounding cash usage during the health crisis further solidified the trend towards digital payment adoption.

From a theoretical point of view, these findings emphasise the role of external events, such as a global pandemic, in accelerating changes in consumer behaviour, even within well-established industries such as payments. This highlights the importance of considering situational and contextual factors to gain insight into consumer behaviour and develop effective marketing strategies and public policies.

Practically, these findings signal the imperative for financial institutions and payment firms to continue investing in the development and promotion of digital payment solutions to meet the evolving needs and preferences of consumers. Furthermore, policymakers and regulators could explore policies aimed at further incentivising the adoption of digital payments, thus fostering a safer and more efficient environment for consumers.

Addressing the concern about the relevance of the findings in the post-COVID era is crucial. Although the study primarily investigates the impact of the pandemic on consumer payment behaviour, its implications extend beyond the immediate crisis period. Despite transitioning into a post-COVID era, the behavioural changes observed during the pandemic continue to resonate in consumer preferences and habits.

The findings shed light on broader trends in consumer payment behaviour, which are likely to persist beyond the pandemic (Graziano et al., 2023; Turangan et al., 2022; Chaudhuri et al., 2023; Wang et al., 2021). The accelerated adoption of digital payment methods and heightened concerns about security and hygiene reflect enduring shifts in consumer preferences that transcend the immediate context of the pandemic (Graziano et al., 2023). Therefore, while the study's data collection occurred during the pandemic, its insights remain relevant for understanding ongoing changes in consumer behaviour. Furthermore, as societies adapt to the post-pandemic landscape, the implications offer valuable guidance to businesses, policymakers, and researchers who navigate the evolving consumer landscape. Understanding the factors driving digital payment adoption and addressing lingering concerns about security and hygiene remain pertinent considerations for stakeholders across various sectors.

In essence, while the study's findings are rooted in the context of the COVID-19 pandemic, their relevance extends into the post-pandemic era, providing valuable insights into enduring shifts in consumer behaviour and informing strategic decision-making in a rapidly evolving digital economy.

### ***5.1 Limitations and future lines of research***

Despite the valuable information collected, this study is not without limitations. First, survey data are based on a specific period of the pandemic and may not fully capture the nuanced shifts in consumer preferences over the long term. Furthermore, more research is warranted to dive into the specific

factors that influence the adoption of digital payments and assess the enduring impacts of these changes on the financial ecosystem and society at large.

Moving forward, future research efforts could delve into analyzing the dynamics of digital payment adoption in the post-pandemic era, as well as devising effective strategies to address challenges and seize opportunities arising from this transformation of consumer behavior. Leveraging available survey data, such as employing Bayesian network models, offers a promising avenue to deepen our understanding of these phenomena and facilitate the expansion of knowledge in this domain.

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## ARE GEN Z TRAVELLERS REALLY SUSTAINABLE? THE PERCEPTION OF SUSTAINABILITY IN HOTEL CHOICES

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### ABSTRACT

This study aims to explore the role of sustainability in the hotel choice of individuals belonging to Generation Z. The research starts with a theoretical framework on the perceptions of Generation Z regarding sustainability, focusing on the impact of this element on hotel preferences and the role of sustainability for hotel choice. A questionnaire was administered to a sample of 636 respondents from the Z-generation to investigate their perceptions about sustainability. The data analysis is based both on descriptive and inferential statistical methodologies. Shifting on the findings, this research found that Generation Z shows a moderate level of interest in sustainability as a driver of hotel choice, as reflected by the almost equal division in the survey respondents. Being sustainable does not necessarily reflect in actual practices and engagement. Finally, there are important differences in the averages across the three sustainable dimensions, highlighting a particular focus of Gen Z on social and environmental dimensions.

*Keywords: Gen Z, sustainability, hotel attributes, hotel choice, hospitality, tourism*

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### INTRODUCTION

The global COVID-19 has dramatically changed businesses operations and consumers' behavior (Donthu & Gustafsson, 2020; Pantano et al., 2020), creating more interest in sustainability issues (Pelikanova et al. (2021). Travelers consider increasingly environmentally attributes in their choices (Robinot & Giannelloni, 2010). Therefore, hospitality companies should comprehend which are the perceptions and attitudes of their consumers concerning sustainability to be able to develop specific services and define future strategies. In the same vein, future academic tourism research should investigate tourists' perceptions of sustainability as a driver of hotel choices (Madar & Neașu, 2020) to provide remarkable theoretical contributions and supportive managerial implications. Despite the

increasing interest on sustainability in research, few studies focus on travelers' perceptions of sustainability practices (Lin, 2017; Sanchez-Fernandez et al., 2019).

This paper aims to explore how travelers' growing emphasis on sustainable factors influences their choice of accommodations. Moreover, the work seeks to address the gap in academic research regarding tourists' views on sustainability in hotel selection with a specific focus on Gen Z, known for its environmental awareness, this study aims to enrich the literature on sustainability-driven hotel choices (Monaco, 2018).

## CONCEPTUAL FRAMEWORK

### Gen Z and perception of sustainability

Recent research found that some specific socio-demographic factors can be determinants of environmental attitudes (Yeoman and McMahon-Beattie, 2019; Smith & Kingston, 2021). Especially the generation is considered a predictor of environmental behaviors (Kafková, 2019). Therefore, understanding sustainability perceptions and behaviors of different generations is nowadays of paramount importance (Haddouche & Salomone, 2018). According to the generational theory (Strauss & Howe, 1997) various groups of people, differentiated by the birth years, can have diverse perceptions and behaviors towards the environmental issues (Li et al., 2013). Some studies underline that especially Gen Z consumer behavior and lifestyle differ from those of the other previous generations (Prayag et al. 2022; Seyfi et al. 2023; Sharma et al., 2023). Previous research about sustainability found that Gen Z (iGen, or Centennials: Born approximately 1996 – 2015) adopt sustainable practices (Dabija et al., 2020; Prayag et al. 2022), showing also a higher willingness to pay for environmentally sustainable products (64%) (Deloitte, 2022). Already in 2019, Booking.com found a high interest of Gen Z in eco-friendly travel, sustainable hotel practices and contributions to local communities. Ribeiro et al. (2023) found that Gen Zers has a high pro-environmental travel behaviors and demonstrate a high environmental concern and engage. However, from other studies emerge that Gen Z have strong environmental values and attitudes but limited engagement in actual sustainable practice (Giachino et al., 2022; Parzonko et al., 2021; Pinho & Gomes, 2023). The ongoing discussion, and sometimes contradicting results about Gen Z sustainability perceptions and behaviors, highlights the importance of extending the research about this topic. With this in mind, the objective of this paper is to analyze Gen Z perceptions of sustainability. Is Gen Z really more sustainable and is there a relationship between being sustainable and active sustainable hotel choices?

### Gen Z and sustainability for hotel choices

Previous literature studied the importance travelers give to different hotel attributes during the choice process identifying mainly cleanliness and location (Dolnicar and Otter, 2003), price (Lockyer, 2005) and value for money (Caber and Albayrak, 2014) as main drivers of choice. More recent studies underline the importance of sustainability (Bohdanowicz 2005; Lee et al. 2010; Han et al. 2011; Millar and Baloglu 2011) among other attributes (Verma and Chandra, 2018). However, the concept of sustainability in previous literature is strongly associated with the environmental dimension (Franco et al. 2021). Few studies consider also the social and economic dimensions of sustainability (Tölkes, 2018, Franco et. al. 2021), for example local products and craft, tangible and intangible attractions (Noonan and Rizzo, 2017). Moreover, few studies consider Gen Z perceptions of sustainability in hotel choices. D'Arco et al. (2023) investigated pro-environmental behavioral intention of Generation Z in the tourism context, especially concerning transportation services. Prayag et al. (2022) studied environmental attitudes, travel behaviors and sustainability practices of Gen Z tourists to Canterbury, New Zealand. Rasheed and Balakrishnan (2023) analyzed Gen Z green brand loyalty. Wee (2019) pointed out that Gen Zers are generally socially and ecologically conscious in their sustainable practice. To the best of our knowledge, previous research doesn't cover the sustainability perceptions and importance as a driver of hotel choice in all its dimensions (environmental, economic, and social). Therefore, the paper wants to contribute to existent literature about sustainability in hospitality, replying to the following research questions: RQ1: Which is the importance of sustainability for Gen Z hotel guests among various hotel attributes? RQ2: Which are the most important dimensions of sustainability (environmental, economic, and social) for Gen Z travellers?

## **METHODOLOGY AND SURVEY**

An exploratory survey (for more information on this technique, please refer to Mutepfa and Tapera, 2019) was conducted to address the research questions presented in the previous section. Data for the study, focusing on the Z-Generation, were collected in May 2023 using a questionnaire divided into three parts. Surveys play a fundamental role in social and economic research, allowing researchers to rapidly collect data from a diverse range of individuals. This data covers various aspects including opinions, behaviors, and demographics, providing a comprehensive view of current trends and public perspectives (Young, 2016). Surveys are valued for their cost-effectiveness and efficiency, making them invaluable tools for researchers (Gideon, 2012). The first part focuses on the socio-demographic characteristics of participants. The subsequent part delves into purchase channels, booking frequency, and reasons for travel. The final part examines the attributes considered by travelers when selecting hotels, with a specific emphasis on assessing the importance they place on sustainability across all dimensions, as well as their opinions and ideas regarding the adoption of sustainable practices by

hotels. In summary, the decision to use a survey is linked to its utility in shaping hypotheses, guiding decision-making processes, and contributing to a deeper understanding of the analyzed phenomena. Regarding the methodology employed in this study, both descriptive and inferential statistical analyses were utilized (Sirkin, 2006), with the aim of providing a comprehensive overview of the respondents. It's crucial to profile the respondents and have a clear overall picture of the sample. Additionally, understanding demographic variables and socio-economic characteristics is essential for evaluating the representativeness of the sample.

## RESULTS

The sample consisted of 636 respondents from the Z-generation, composed by 432 women, 200 men, and 4 that have decided to not specify their gender. More than 90% of the participants identified as students, with a close to 0.5% having children. Travel companions primarily included friends, partners, and family members. In terms of education, 77% held a high school degree, and 10% had completed lower secondary education, aligning well with the age distribution of the sample and, considering their personal status, about 72% reported being single, while 27% affirmed to have a relationship. Furthermore, other variables were investigated, such as average expenditure, travel frequency, and accommodation preferences. When splitting the sample between those who prioritize sustainability and those who do not (314 and 322 responses, respectively), it was found that the average annual expenditure is similar and mainly falls within the ranges of €501-€1,000 and less than €500. Examining accommodation preferences, there is a consensus between the two groups, with hotels and apartments being the most utilized. However, when assessing travel frequency, a distinct difference emerges. While the modal frequency remains "once a year" for both groups, 58% of sustainable travelers, compared to 48% of non-sustainable travelers, took vacations two or more times. Shifting focus to the average length of stay, it remains consistent at around 4 nights for both categories. Lastly, the most frequently chosen hotel category is 3-star accommodations. The most common reasons for travel, as reported by respondents, were to discover the local culture, seek relaxation and well-being, and entertainment and leisure activities and these reasons are similar for the two parts of the sample, there are not relevant differences from a percentage point of view. For the booking process, as expected, the two categories of respondents use the same two instruments that are Web Specialized Portals and Websites, and the two instruments represent the 90% of the answers provided by the Z-generation. As a first result we don't notice a difference in socio-demographic features and travel habits of Gen Z travelers according to their self-evaluation of being sustainable. Sustainable and non-sustainable young travelers show a similar profile. In a subsequent phase of the questionnaire, participants were introduced to a diverse array of attributes that encompassed various

facets of hotel hospitality. The following table provides a comprehensive overview of the average results associated with these attributes within the context of the two distinct respondent categories.

Table 1. Attributes in hotel choice (using a Likert Scale 1-7)

| Variable        | Location | Price | Cleanliness | Service Quality | Sustainable Practices | Food and Beverage | Brand | Price Quality Ratio | Staff | Rating Online |
|-----------------|----------|-------|-------------|-----------------|-----------------------|-------------------|-------|---------------------|-------|---------------|
| Sustainable     | 5.53     | 5.83  | 6.04        | 5.18            | 5.14                  | 5.51              | 3.76  | 5.96                | 5.76  | 5.34          |
| Not Sustainable | 5.43     | 5.82  | 5.81        | 4.84            | 3.36                  | 5.04              | 2.73  | 5.82                | 5.20  | 5.13          |
| Difference      | 0.10     | 0.01  | 0.23        | 0.34            | 1.79                  | 0.47              | 1.03  | 0.14                | 0.56  | 0.21          |

The table reveals that there is, on average, a higher evaluation for sustainable options compared to non-sustainable ones. This holds true across all the proposed categories. The most relevant attributes, with only slight decimal differences for both categories, are cleanliness, the price-quality ratio, and price. Brand, on the other hand, does not appear significant for either part of the sample, with evidently lower ratings compared to other factors. Focusing on sustainability, there is an evaluation that doesn't stand out among the other attributes. In the case of non-sustainable options, the assessment is notably low overall. However, the difference in evaluation between the two respondent categories is significant, suggesting that users can self-assess their sustainability considerations in hotel choice. Therefore, considering RQ1, it can be stated that sustainability doesn't emerge as one of the primary attributes even for users who self-identify as sustainable. It is only one of the relevant aspects that influence user choice. On the other hand, it is noticeable that sustainable users give higher ratings, although not primary, to the sustainable practices offered by hotels. Continuing the investigation, the study turns its attention to the research question through the application of the Mann-Whitney U test. The objective is to discern whether there exists a discernible difference in the perception of the three sustainability dimensions between individuals who categorize themselves as making sustainable choices in hotels and those who explicitly identify as non-sustainable. This inquiry delves into a range of factors associated with both the activities and organizational aspects of hotels, encompassing a set of questions incorporated into the questionnaire. The intent is to gain deeper insights into the nuanced perspectives held by these two distinct groups, shedding light on how their perceptions may vary concerning sustainability aspects within the hospitality industry.

Table 1. Hypothesis Testing

| Dimension     | Mann W. U – Test | P-Value                  | Mean Sustainable | Mean Not Sustainable |
|---------------|------------------|--------------------------|------------------|----------------------|
| Environmental | U = 36597        | The p-value is < .00001  | 5.60             | 5.09                 |
| Social        | U = 39289        | The p-value is < .00001  | 5.56             | 5.12                 |
| Economic      | U = 39741.5      | The p-value is < .00001. | 5.34             | 4.85                 |

Analyzing the outcomes provided in the table, it becomes apparent that a significant contrast is evident in the evaluations made by the two groups. Taking into consideration the average values, there is an increasing evaluation by respondents who define themselves as sustainable. Overall, the Environmental dimension and the Social dimension are the most considered, moreover it is important to note that, for the Economic dimension, there is a lower distance among the respondents. Concerning RQ2, survey participants are usual to assign more favorable ratings to aspects related to the environment and social dimensions compared to those of an economic nature. This suggests a particular focus on environmental and social considerations when respondents express their evaluations. Simultaneously, upon closer examination of the differences between the assigned averages, no significant disparities emerge among the various dimensions considered. This could indicate a certain homogeneity in the overall evaluations, despite individual preferences for specific aspects of hospitality.

## CONCLUSIONS

The results of this study show that Generation Z exhibits a moderate interest in hotel sustainability, as evidenced by the nearly perfect split in the survey results. The averages of the three dimensions are significantly different, indicating that respondents have a clear self-assessment process regarding the role of sustainability in hotel choices. This suggests that the analysis did not reveal any misleading aspects, and participants are conscious and reflective about sustainability in their hotel selection criteria. However, also Gen Z travelers that self-evaluate themselves as sustainable consider sustainability less important than other hotel attributes such as cleanliness, price and value for money.

## THEORETICAL AND MANAGERIAL IMPLICATIONS

From the point of view of theoretical implications, the study enriches the literature about hotel attributes considered by Gen Z during the travel behavior process with a particular focus on sustainability affecting consumer behavior. Gen Z sustainable tourists perceives the role of

sustainability as increasingly important in the hotel choice confirming previous research by Bohdanowicz (2005), Lee et al. (2010), Han et al. (2011), Millar and Baloglu (2011) and Verma and Chandra (2018). However, this item does not appear to be the prominent driver as compared with other (i.e. cleanliness, price, etc.) confirming previous studies about main drivers of hotel choice by Dolicar and Otter (2003), Lockyer (2005) and Caber and Albayrak (2014). It seems that strong environmental values and consciousness does not reflect in actual practices and engagement. This confirms previous research by Giachino et al. (2022), Parzonko et al. (2021), and Pinho & Gomes (2023). Concerning the different perceptions of sustainability dimensions our study confirms a socially and ecologically consciousness of Gen Z confirming the study of Wee (2019). Concerning managerial implications, the study offers a support for hotel managers to identify the most appropriate services and strategies to satisfy Gen Z sustainable conscious travelers. The studies demonstrate the increasing importance of sustainability, especially for social and environmental dimensions, as a driver of hotel choices. Therefore, Gen Z perceptions about sustainability and its influence on guests' choices should be seriously taken into account by hotel managers in defining their future management and communication strategies. This affects also policy makers and other destinations' travel companies that are components of an integrated travel experience.

## **DEVELOPMENTS, LIMITS, AND FURTHER CONSIDERATIONS**

Within the confines of the current study, it is essential to acknowledge the limitations of the sample, which may be expanded for broader insights. Consideration should be given to enlarging the sample size and comparing it with other generations or with Generation Z cohorts from different countries. This extension would enhance the generalizability of the findings and provide a more comprehensive understanding of how the perspectives on sustainability in hotel choices may vary across diverse demographic groups and cultural contexts. Such comparative analyses could offer valuable cross-cultural insights, contributing to have further interpretation of the research outcomes. Moreover, the study is focused only on the hotel business. For the future other tourism businesses could be involved in the study such as transportation and Food & Beverage. Future research could also investigate the reason why sustainability consciousness is struggling to become actual and active sustainable practice and behavior showing a more passive approach of Gen Z.

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## DETERMINANT ATTRIBUTES IN THE SMARTPHONES PURCHASE

### DECISION: AN ANALYSIS OF THE Z AND X GENERATIONS

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#### ABSTRACT

The factors that affect the smartphone purchase decision are comprehensive and it is difficult to assign a single reason or aspect to the consumer's choice. This research analyzed which and how Brazilian consumers of generations Z and X prioritize the determining attributes when purchasing smartphones. This is a qualitative, exploratory study, using Interactive Qualitative Analysis (IQA). As the main results, it was identified that the generations use different behavioral patterns in the purchase decision. While Generation Z consumers were born in the Internet era and of significant technological developments, they use advertising and influences in the purchase decision. In contrast, Generation X consumers who already have financial, employment, and dependency stability, a more traditional consumer profile, use credibility and applications in the purchase decision. This study advances by presenting the relationship between consumers' determining attributes when purchasing highly involved products, such as smartphones. The creation of mind maps to show the consumer decision-making process is also a contribution presented by this research. The relationship between affinities may offer directions for marketing investments by the Apple and Samsung brands since some attributes are more determinant than others.

*Keywords: Determining attributes; Buying decision; High involvement.*

#### INTRODUCTION

The objective of this research is to present the smartphone purchasing decision-making model for generations Z and X, compare them and discuss their implications.

The factors that affect the smartphone purchase decision are complex. It is difficult to assign a single reason or element to the consumer's choice, as the attributes differ for different individuals (Sujata, Yatin, Abhijit, Noopur, and Ruchi, 2016). There is also recognition of the importance of consumer engagement with new technologies, their background, and moderators in the purchase process (Marbach, Lages, Nunan, & Ekinici, 2019). The objective is to present the decision-making model to purchase smartphones for both generations, compare them, and discuss its implications.

The smartphone is a product through which consumers tend to show their image to other people, and this indicates that, when making their choice, customers prefer those that match their self-image (Kaur and Soch, 2017). Sheth (2020) presented smartphones as one of the most impacting advances in consumers' lives in recent years. And with the rapid development of technology, smartphones have introduced an increasing number of features, making it more difficult for the market to accurately assess the product's perceived quality (Zhao, Qiu, Zhou, Hu, and Yang, 2020). While smartphone usage continues to have an increasingly significant influence on national economies, research has seldom delved into the correlation between economic circumstances and trends in smartphone purchases (N'da et al, 2023).

Knowing the characteristics of consumers and the purchase decision process, obtaining information about the brand, product price, and purchase decision of consumers are characterized as relevant studies (Irfan and Rachmawati, 2018).

The concept of generation in the historical conception designates a group of people who were born, more or less, at the same time and who have in common a similar historical experience and cultural proximity (Forquin, 2003). It has been common practice in global marketing to group consumer segments into target market categories. One of the more widely used is that of lumping generational cohorts into a group, and assigning traits to that group (Zwanka and Buff, 2021).

Generation Z's market segment includes consumers who have easier access to information, mobile and connected to date, and are those consumers born from the 2000s until 2010 (Sinha e Lu, 2019). Generation Z members are also socially aware, tech-savvy, incredibly innovative, and continually looking for a change (Chaney, Touzani, and Ben Slimane, 2017). They are continuously connected through smartphones and other electronic devices (Sinha and Lu, 2019) and have access to more information than any different generational cut (Mahmoud, Fuxman, Mohr, and Reisel, 2020).

Generation X consumers were born between 1960 and the late 1980s (Mahmoud et al., 2020). They were labeled 'generation of fear' because the age of majority was marked by the threat of nuclear war, economic crisis, and unemployment (Solomon, 2016).

Future studies should focus on establishing consumers' typologies from different generations, highlighting the main differences that characterize each generation, and making comparisons. Recently, Gupta and Jain (2019) pointed out that the process of choosing for different ages is relevant in marketing research. Given these considerations, it is plausible to say that the Z and X generations' consumers have other decision-making processes when purchasing smartphones. Therefore, the research problem is: how do consumers of ages Z and X prioritize attributes to buy smartphones?

## THEORETICAL REVIEW

### *Smartphones Purchase Decision*

The increase in the Internet's use and the possibilities for online shopping opened up altered consumers' decision-making processes. The classic purchase models became inadequate, making the acquisition process more complicated (Ewerhard, Sisovsky, and Johansson, 2019). With this change, companies that sell smartphones are not the only sources of information. Consumers also share the device's data/characteristics with friends, co-workers, and even on their digital media. Customers go through the decision-making stages several times until they purchase the product (Ewerhard et al., 2019), and social networking sites are becoming an essential part of consumer daily activities, with profound changes in purchasing behavior compared to traditional buying formats (Al-Abdallah, Khair, and Elmarakby, 2021).

The purchase decision is an integration process that combines knowledge to evaluate two or more alternative behaviors. Only one of them will be chosen when defining the product to be purchased (Irfan and Rachmawati, 2018). Sang, Xue, and Zhao (2018) consider that when the purchase decision process's involvement is high, the consumer seeks the most outstanding possible amount of product information and carefully compares the different options. Consumer engagement with value-added products (e.g., smartphones) is a complex, vital, and long-term intervening conceptual construct that influences the consumer's purchasing decision (Wahab, Diaa, and Nagaty, 2023). Given these similarities in purchase options, consumers are caught in the most striking attributes while purchasing a new product.

Shopping behavior can be affected by smartphone design, performance, types of connectivity it supports, price, social trends, and so on (Sujata et al., 2016). In the same direction, recently Fukui and Tan (2024) indicate that hedonic value, user interface and price value (PV) positively influence the attitude towards purchasing smartphones 5G, while utilitarian value does not. A study by the Market Analysis and Consumer Research Organization (2018) found that in 79% of the situations, people buy these products based on their influences. That is, the desire to buy arises with the motivation that others around you (friends, co-workers, and family, for example) have a particular electronic device. Consumer decision-making styles are considered psychological and intellectual approaches that can influence a customer's purchasing decision and help explain customers' behavior toward high-involvement products (Wahab, Diaa, and Nagaty, 2023).

Another attribute used in the purchase decision frequently identified is the brand. Another research confirms the brand's importance in choosing, however, considering other attributes involved, such as a recommendation from friends and family, innovative characteristics, promotion effectiveness, ease of use, after-sales services, design and price (Khan and Rohi, 2013). Loureiro, Correia and

Guerreiro (2023), in their research, identified that the brand is an important attribute when purchasing high-involvement products, not only in the physical environment, but also through e-commerce. Wang et al. (2023) explained that the brand image is one of the attributes that attract the brand change when purchasing a smartphone. A good brand image becomes a strong attraction to lead competitors' customers to buy the products that are offered.

In addition to the purchase decision attributes, it is valid that organizations also analyze the influences and the entire post-purchase process. Dhar, Huber, and Khan (2007) pointed out that consumers acquire an active and persistent implementation mentality after initially purchasing a specific product. Consequently, these consumers tend to encourage others (be it friends, family, and co-workers) to make an initial purchase of a particular product and increase the likelihood of making a second purchase (repurchase).

Differences in individual consumer characteristics indicate that the purchase decision-making processes are not deterministic (Völkner and Werners, 2002). They are still related to the decision maker's features (Chowdhury, Ratneshwar, and Mohanty, 2009). Consumers exhibit different patterns in decision making based on their characteristics (Bhatnagar and Ghose, 2004). Previous research indicates that purchasing processes are influenced by consumers' decision-making and product knowledge (Karimi, Papamichail, and Holland, 2015). These individual characteristics define consumers' motivation and capabilities and, therefore, can explain the differences in decision behavior (Karimi, Holland, and Papamichail, 2018).

For Sheth (2020), while consumption is chronic, there are also influencing factors that are contextual and change consumer habits. The social context (involving family and friends) and even the technological context, as innovative technologies emerge, change old habits. And among the most drastic technological advances in recent years, smartphones (smartphones) are included. Digital technology is transforming consumer desires into needs. Today, for example, one cannot live without a smartphone due to its day-to-day functionality, portrayed in the form of a personal need for interaction with the environment (Sheth, 2020).

While customers are progressively becoming omnichannel buyers, it is no longer enough for marketers to strategize only to optimize sales in physical stores versus online (Parise, Guinan, & Kafka, 2016). Therefore, it is necessary to combine the contact points between the customer and the brand to engage each customer and expand the overall consumer experience in this purchase process (Rasool, Shah, & Islam, 2020). Therefore, the organization of the determining attributes in the decision-making process is characterized by each consumer's priority at the time of the purchase definition (Irfan and Rachmawati, 2018).

## METHODOLOGICAL ASPECTS

It is qualitative, exploratory research, using Interactive Qualitative Analysis (IQA). The IQA is an innovative way of doing qualitative research (Davis, 2019), especially in consumer behavior studies. The IQA protocols, designed by Northcutt and McCoy (2004), ensure that the researcher has minimal influence on the participants' data since the data generation and the first steps of the analysis are carried out by the research participants themselves organize your speech into categories. The result of the IQA is a mental map of a group about a specific phenomenon; this study, showing decisive attributes in the choice of smartphones, exploring individual and collective feelings and thoughts.

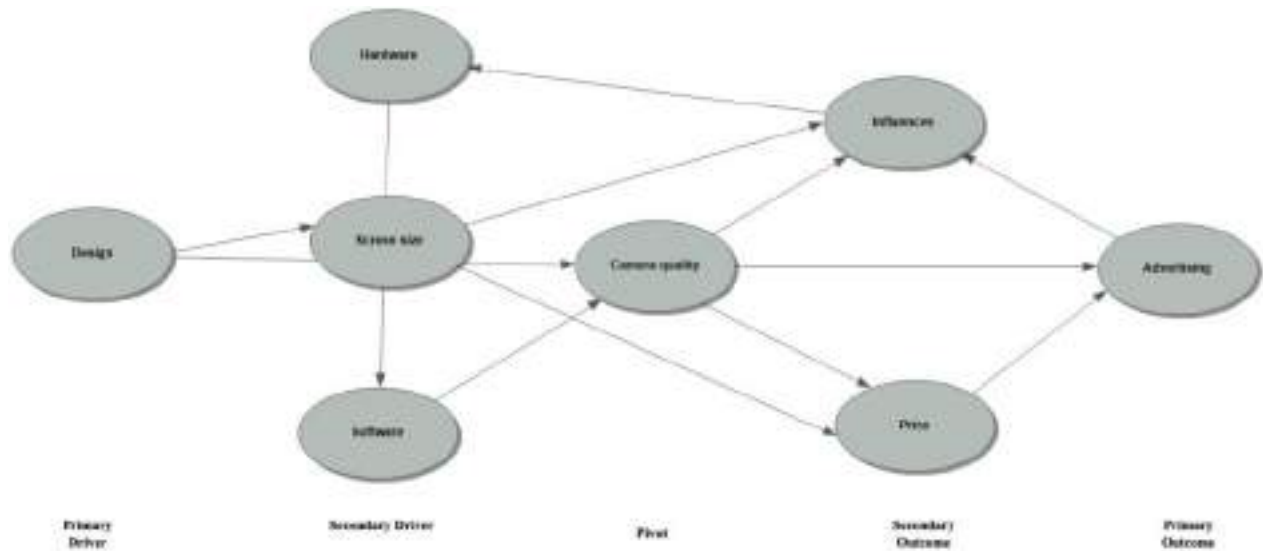
In this research, individuals' choice meets the criteria of minimum distance and maximum purchasing decision power concerning the phenomenon under study (Northcutt and McCoy, 2004). They were chosen, due to accessibility, to constitute the groups of research participants, consumers of smartphones of the Samsung and Apple brands. The first group, Generation Z, was formed by consumers born from the 2000s until 2010, and the Generation X group, by consumers born between 1960 and 1980. The participants selected in both groups use high technology, performance, approximate prices, and all the latest models launched on the market by the Apple and Samsung brands. Respondents have used the same smartphone brand for over three years, with the device being purchased in the last six months.

The research was carried out with Brazilian consumers. Ten consumers belonging to Generation Z and nine consumers belonging to Generation X participated in the research. These participants were involved during data collection via different focus groups for each group, and later, all were interviewed individually. Following the guidelines of the Research Ethics Committee of the University to which the researchers are linked, it was decided to keep the research participants confidential, naming them only as Interviewee 1, Interviewee 2, and so on (represented by E1-Generation Z or X, E2-Generation Z or X, E3...).

## PRESENTATION AND DISCUSSION OF RESULTS

### *Generation Z data presentation*

During data collection with the focus group, Generation Z participants pointed out as determinants in purchasing smartphones the following attributes: design, hardware, screen size, software, camera quality, influences, price, and advertising. Figure 1 shows the mindmap of consumers of this generation, (Northcutt and McCoy, 2004).



**Figure 1. Generation Z - System Influence Diagram drawn from interviews.**

Figure 1 shows the relationships of affinities. The primary design driver has two influence arrows, starting with screen size, camera quality, price, and advertising (via camera quality). About these relationships, the interviewee pointed out that:

I think the design is related to the screen size because I imagine that companies develop a smartphone thinking about a differentiated product. From that, they will create a screen (display) according to the design of the device. Nevertheless, the focus should be on the differentiated design to draw consumers' attention (E9- Generation Z).

As secondary drivers, we have an affinity for screen size, hardware, and software. Screen size has two influence arrows, starting with the price and also with influences. Regarding these relationships, it was identified that:

The screen size also shapes the price of the cell phone, right? [...] why cell phones are increasingly coming with big screens and higher prices. (E1- Generation Z).

Ah, I think the screen size is related to influences. If Samsung launches a new phone, famous people will try to influence us to buy with a different screen from the competition. If a friend buys and likes it, surely, he will want to make us buy too (E7- Generation Z).

Regarding hardware affinity, there are relationship arrows for software and camera quality (via software).

I imagine that the hardware, being the basis of the smartphone, influences the software. If my phone does not lock, I can download a lot of the App, it lasts a long time on the battery, so I imagine its suitable hardware (E3- Generation Z).

As a secondary drive, the software is related to camera quality, price, and advertising (both via camera quality). The importance of camera quality is perceived in this consumer decision model, being the central attribute of the decision process.

If you have good software, the camera is usually excellent too. It has good quality (E3- Generation Z)

Suppose the phone has good software. The camera does not lock. Good software also makes the videos look good, without crashing, with good quality. I think the software dramatically influences the smartphone's camera (E7- Generation Z).

The model's pivot affinity is camera quality. In this affinity, there are arrows of influence for the price, advertising, and influences.

The more a good camera is, the higher the price will be (E3- Generation Z).

The quality of the camera has to do with advertising. If I have an excellent camera, I can use it in my advertising (E3- Generation Z).

Price affinities and influences emerged from the interviews as secondary results. The price attribute has an influence arrow only for advertising.

Depending on the price of the cell phone, the company invests in more types of advertising. For example, if Apple launches a new iPhone, it can invest heavily in advertising, as it is a product launch from a well-known brand (E9- Generation Z).

Nevertheless, the influences (from friends, famous people, family) were identified by consumers having to do with the smartphone's hardware (Bertol et al., 2017). It was understood that consumers who can influence other people also seek to convince them of the differential hardware in the smartphone. This view corroborates the findings of Zhao et al. (2020) where they pointed out that consumers expect to receive accurate information from people who have already purchased products in previous periods.

Anitta, for example, when she appeared on TV with a Samsung and talking very well about the operating system, security and



the cell phone did not lock up, she certainly influenced me to buy a Samsung for his hardware (E4- Generation Z).

Finally, the immediate result of the interviews was advertising. Research participants understand the importance of advertising as a final stimulus for a purchase decision.

Advertising is the final stimulus. When I'm in doubt between two cell phones, I see which advertisement convinces me the most: the famous people in the advertisement, and from that, I decide which smartphone to buy (E3-Generation Z).

The sold products dissemination strategy depends not only on the quality of the product (in general) but also on the costs of disclosure (channels) and the level of anxiety of the consumer. Therefore, dissemination strategies are necessary (Zhao et al., 2020). After presenting the data collected with Generation Z, Generation X's results are presented.

#### *Presentation of Generation X Data*

During the focus group's creation with Generation X consumers, the following attributes were listed as determining factors in the purchase decision: software, hardware, design, price, credibility, internal memory, camera, and image quality and apps.

Figure 2 presents Generation X consumers' decision model containing the affinities mentioned as determinants in the decision-making process.

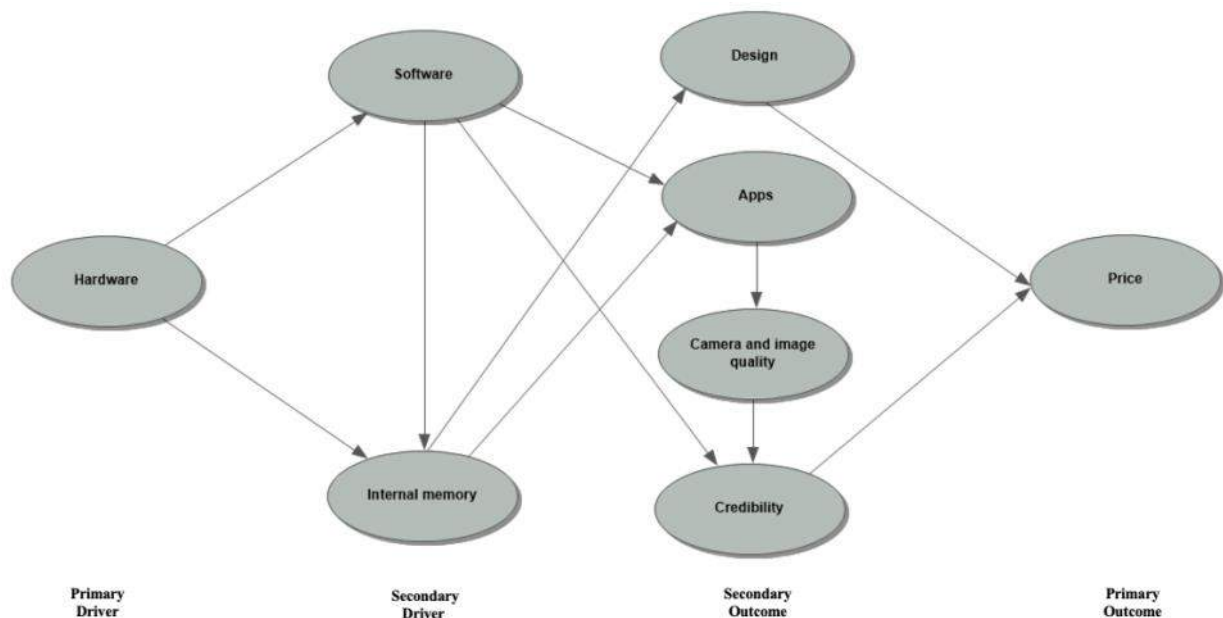


Figure 2. Generation X - System Influence Diagram drawn from interviews.

Hardware affinity is the primary driver. This affinity is related to software, applications, credibility, and internal memory. There is also a relationship between hardware with design (via internal memory), hardware with camera and image quality (via apps), and hardware with the price

(via credibility). The hardware affinity is related to all other affinities, being the attribute with greater power:

I think that the hardware influences the price, because you put a camera set that is more basic, then it will be a more expensive cell phone (E2-Generation X).

Because depending on the hardware, you will have a type of design, I believe that you are influenced right. For me, the iPhone's design is more beautiful than that of Samsung, and I think it has to do with hardware (E9-Generation X).

As secondary drivers, there is software and internal memory. Software is related to internal memory, applications, credibility, price (via credibility), and camera and image quality (via apps). Moreover, the internal memory can influence design, applications, price (via design), credibility (via apps):

Internal memory influences price; I think that the larger the memory, at least within the same model, this relationship is direct, right? (E1-Generation X).

Because look, how reliable the internal memory will be to give me confidence in the authority of my applications, my device [...] (E8-Generation X).

The affinities pointed out as secondary results are: design, applications, camera and image quality, and credibility. The design has a greater power of influence over price:

People buy things for what they see. Look, I liked that for the image, for that with the eye itself. I see this is very beautiful. People buy for what they see, for the beauty itself. In this sense, people will pay a higher price, right (E3-Generation X).

The applications are related to camera and image quality and credibility. The affinity of camera and image quality has greater power over credibility and price. Moreover, the credibility affinity has a greater power of influence over price:

Applications influence credibility because you have no problem once you have that confidence that you do not have a virus. So you have greater credibility in doing certain things that you would typically do only in the bank, which sucks. You keep going to the bank (E5-Generation X).

Credibility precisely because of that, right, by use. I think if the iPhone guy will not take the price into account in my view. You

know, he will want to buy because of the credibility or because of what people have already passed on to him, that is a better device (E6-Generation X).

This study confirms the findings of Soesilo, Gunadi, and Arimbi (2018), where corporate credibility plays a critical role in reducing consumers' perceived risk and strengthening consumer confidence. The authors reinforce that credibility has been one of the focal interests that continues to receive attention in the marketing and advertising environment. Company characteristics such as attentive, competent, convincing, ethical, honest, impressive, and trustworthy are understood as factors that guarantee credibility (Hussain et al., 2020).

Given this evidence presented, the next topic will display a comparative analysis of the data collected with Generation Z and Generation X.

#### *Results Discussion*

Almost all consumers carry a smartphone with them all day; while some use it only for entertainment, others also use it as a work tool. People use it for various purposes, not only to call, send texts or access the Internet, but also to answer e-mails, create spreadsheets, and even hold meetings. The personal smartphone is used as a superfluous electronic device and as a working tool (Simmonds, Guha, Rahim, and Mella-Barahona, 2019).

Between the two models that emerged from the interviews, some affinities (attributes) were decisive in both generations' purchase decisions, such as software, hardware, price, design, and camera/image quality. However, some of these affinities are positioned differently in prioritizing consumers. In Generation Z, design emerges as the main attribute of the purchase decision, influencing other affinities. In Generation X, design emerges as results, being influenced by other more determinant attributes in the consumers' perception. It appears that in the purchase decision of Generation Z, characteristics such as appearance, color, and thickness are more determinant than in Generation X, which uses hardware as a base attribute in the purchase decision. Two vignettes were created that represent Generation Z and X consumers' purchase decision process, respectively.

*“João Marcelo, now 19, has worked hard for the past 2 years and managed to save 1480 U\$\$. With that amount, he chose to purchase a new smartphone. João Marcelo goes to the store and the most decisive attribute in the purchase is the design, he is mainly concerned with color and thickness. Technical specifics, functionality, operating system and screen size are secondary characteristics in its decision, but they are also decisive. Among the options available, João Marcelo chooses the smartphone with the best camera quality (which has the best focus and sharpness in photos and videos), for him, this attribute is central to the purchase decision. However, there are still three options available within the features he outlined. So, he quickly checks his Instagram and analyzes the opinions of celebrities and makes a quick call to his best friend Fernando,*

*because for João Marcelo, the opinion of friends and celebrities are important. Finally, it takes into account the price to make a decision and remembers the advertisements you saw in the paid Instagram ads. João Marcelo, young, impulsive, anxious and indecisive, is in doubt whether to buy a Samsung Galaxy S20 + or Apple's iPhone 12 Pro Max."*

*"Sabrina, who is a professional in the area of Architecture, needs to change her smartphone, as it has been 3 years since the last exchange. However, she is married and has an 18-year-old daughter, has household expenses to pay, including rent and health insurance. But, the smartphone for her is a work tool too, and therefore, the technical components (hardware) are the most determining attribute in her choice. As mentioned by Sabrina, she uses the device as a work tool, to store and present projects to clients, make bank transactions, among others. That is, the internal memory capacity and the software used are extremely important also at this time of exchange. Even in her late 50s, Sabrina likes colorful smartphones that have a large screen, uses several applications, loves taking pictures and recording videos, and has her digital media always up to date. However, experience and security with the brand are indispensable factors in her decision. The price for Sabrina is not such an important attribute, but ultimately, it is her weight of importance. Sabrina is in doubt, if she buys the iPhone X from Apple or the Galaxy Note10 + from Samsung".*

Figure 3. Vignettes of the Generation Z and X purchase decision-making process.

As illustrated in the first vignette, camera quality is the pivot of the purchase decision model for Generation Z consumers. In Generation X, this attribute also includes image quality (in addition to the camera). Generation Z uses the smartphone more as entertainment, recording moments with friends, food, and recording many personal moments alone, corroborating Melumad and Pham (2020). They analyzed smartphones as fun and entertainment forms by consumers and pointed out that emotional benefits are essential in this consumer profile.

In contrast, the quality of the camera and image for Generation X (second vignette) is seen as secondary results. It is more influenced by other affinities that are considered to have greater power in the purchase decision. It is inferred that Generation X consumers do not use the camera quality feature so often for entertainment purposes. Instead, they use image quality during their activities during day-to-day activities, such as sending e-mails, meetings, and reading reports. These findings corroborate Simmonds et al. (2019), where they pointed out the use of smartphones as a work tool, not just for entertainment purposes.

Regarding the option of using the smartphone as entertainment, this action aims at satisfying the consumer's emotional needs, mainly from Generation Z. Consumers even seek emotional benefits on their smartphones, in particular, feelings of psychological comfort and, if necessary, real relief stress (Melumad and Pham, 2020).

Price affinity is seen as a result of both generations. Previous research by Pinto et al. (2019), also identified price as a determining attribute in the acquisition of electronic products. In this research, it was found that Generation Z consumers prefer to make installment purchases, while Generation X plans to save money and make sighted purchases, seeking discounts.

The software is present in both generations' decision-making processes. Even so, Generation X consumers demonstrated more knowledge of affinity by presenting software features, such as practicality, ease of use, agility in executing commands, security, and trust. Soesilo et al. (2018) pointed out that this consumer profile is more detailed at the time of purchase, seeks detailed product information, and performs cost/benefit analyzes before purchasing. For Generation Z, only functionality and diversity of functions were mentioned when approached about software.

There is a common point among consumers who participated in this research: smartphones are technological products that we regularly use, whether for entertainment or work activities. During the interviews, it was possible to identify a predominance in both generations by smartphones of the Apple brand, mainly due to the brand credibility (Generation X) and the status and influence of personalities, friends, and family (Generation Z). Demo and Guanabara (2015) have stressed the importance of consumers' utilitarian meaning in the process of choosing and buying the iPhone. A study by Kim, Lee, and Lee (2020) with consumers in South Korea, identified that Apple consumers are more loyal to the brand than consumers of Samsung. For these consumers, the brand is the most crucial attribute in the purchase decision.

With the advances and improvements that arise related to technology and rapid changes in market demands, the life cycle of consumer electronic products is being reduced, and new products have been continuously launched (Rau and Fang, 2018). These facts make consumers buy smartphones more often, always looking for new products with differentiated design and superior performance.

## FINAL CONSIDERATIONS

The generations use different behavioral patterns in the purchase decision. Generation Z consumers, use attributes such as advertising and influences in the purchase decision. Opposed to Generation X consumers who already have financial, employment, and dependency stability, a more traditional consumer profile use credibility and applications in the purchase decision. A more significant concern is perceived among Generation X consumers. Unlike Generation Z, the smartphone is also used as a work tool, which is an entertainment and status device.

The use of mental models as a way of portraying the results identified during the research corroborates the findings by Pryor et al. (2016). In this research, based on the information collected from the interviewees, two mental models can be constructed, one being a shared mental model (from

the focus group) and another individual mental model (elaborated from the interviews). It should be noted that the same people participated in the construction of both models; however, they are different mental models. Pryor et al. (2016) revealed that the models can be shared in groups, and these groups affect the behavior aspects and information processing, consequently, the models are influenced during the construction by the group members. Recently, Behling (2019) also used mental models as a way of retracting the results of research carried out in Administration, using the same method as in this research.

As theoretical contributions, this study advances by presenting the relationship between consumers' determining attributes when purchasing highly involved products, such as smartphones. The creation of mind maps to present the consumer decision-making process is also a contribution presented by this research. The comparative analysis between the two generations also presents its contributions. It presents the purchase decision process in detail individually and subsequently performs analyses showing consumers' similarities and differences when purchasing smartphones.

As management contributions, it is recommended that marketers develop strategies segmented by smartphone customers since differences in the determining attributes between Generation Z and Generation X have been identified. The relationship between affinities may also present directions for marketing investments by the Apple and Samsung brands since some attributes are more decisive than others. In product dissemination strategies, greater emphasis can be given to attributes considered to be primary drivers in the developed decision models.

Even using robust methodological rigor, some limitations must be mentioned. First, it is an exploratory study with samples from only one State in Brazil. Studies in other regions of the country and internationally may also present their contributions due to cultural differences that may (or may not) influence consumers' purchasing decisions. Generations Z and X and the Apple and Samsung brands were used as a search filter; thus, new studies can be directed to other generations, make comparisons between generations, and analyze other smartphone brands. This study analyzed consumers only from smartphones' perspective, new studies analyzing the determinant attributes to purchase other types of electronic products such as notebooks, smartwatches, tablets, and others should be conducted. Quantitative studies with larger samples from across the country are also recommended to prioritize and validate exploratory qualitative studies.

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# SAFETY AND SECURITY IN A TOURISM DESTINATION: PREVENTION OF CRIME AND THE SELF-PROTECTIVE BEHAVIOUR IN ZADAR COUNTY (CROATIA)

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## ABSTRACT

Considering the ongoing political instability, wars, refugee crises, increasing terrorist attacks worldwide, and the rise in crime due to poor socio-economic conditions in many countries, safety has become a crucial factor in choosing a tourism destination. Various programs aim to ensure safety in destinations, while crime prevention and the self-protective behaviour of all stakeholders significantly contribute to overall safety and security in a tourism destination. In this context, this paper examines the self-protective behaviour and crime prevention efforts of renters in private accommodation and tourists in Zadar County (Croatia), a developed tourism destination. To achieve this, a continuous survey was conducted using a structured questionnaire. The results revealed a certain level of self-protective behaviour among the observed groups, however, there remains place for improvement. These findings indicate the need for the continuous implementation of various programs and measures to enhance the self-protective behaviour of all stakeholders in the destination. They also serve as a guide for tourism management to monitor and maintain safety and security in the area. Self-protective behaviour, as a form of responsible and conscientious conduct, plays a vital role in crime prevention and ensuring safety in tourism destinations. Therefore, research in this area and its implications are of significant importance for contemporary tourism management.

*Keywords: safety and security in a tourism destination, self-protective behaviour, Zadar County, Croatia*

## INTRODUCTION

The aim of this paper was to determine the level of self-protective behaviour of renters in private accommodation and tourists in Zadar County (Croatia), as a developed tourism destination. To achieve this, a survey was conducted over several years using a structured questionnaire. During this period, various measures were implemented to enhance self-protective behaviour and prevent crime in Zadar County. The research results indicated a certain level of self-protective behaviour among the

observed groups, as well as opportunities for improvement. Ensuring a high level of safety and security is a crucial goal for any tourism destination, making safety a key element of contemporary destination management.

With this in mind, safety and security are broadly understood to encompass various aspects, including social safety, legal safety, psychological safety, traffic safety, and workplace safety (Nobilo, 1988: 70). In tourism, factors such as war, terrorism, and political instability have a significant negative psychological impact on tourists planning their trips. Additionally, the implications of migrations and refugee crises, natural disasters, and new diseases further complicate the tourism market (Čavlek, 2002; McKercher and Chon, 2004; European Union, 2019; Rossello *et al.*, 2020; UNWTO, 2020). Actual or perceived crime rates in a destination negatively affect tourist behaviour and demand, particularly in terms of destination choice and overall satisfaction (Brown, 2015). Safety issues concern all stakeholders in a destination, and their self-protective behaviour enhances overall security (Mawby and Vakhitova, 2022). Self-protective behaviour involves responsible actions focused on crime prevention within tourism destinations (Juan *et al.*, 2010) and falls within the responsibilities of all relevant stakeholders.

## **PREVENTION OF CRIME AND THE SELF-PROTECTIVE BEHAVIOUR IN TOURISM**

Safety and security are key factors and motivators for tourism in this day (Breda and Costa, 2006). Unfortunately, tourism is sensitive to various safety and security threats, like wars, terror, crime, health conditions or civic unrest (Pizam and Mansfeld, 2006; Matika and Gugić, 2007; Tarlow, 2014). During the season, tourists are often the target of organized or unorganized crime. This is mostly related to the seasonality and large number of visitors and workers in a smaller geographical area, volatile relationships between residents and tourists, and intensive spending of money by tourists in a short period (Jones *et al.*, 2015). Gabriel and Greve (2003) show that fear of crime consists of three facets: the behavioural (the conscious experience of fear); the cognitive (the cognitive perception of a particular threatening or dangerous situation); and affective (the avoidance of a perceived threat or danger, and taking preventive and self-protective actions). According to Habitabar *et al.* (2023), social, situation and policy prevention of crime are in domain of local community. In this framework, prevention implies the totality of all measures taken in order to eliminate or reduce crime, or in any way ease the feeling of uncertainty among residents, whether it be by directly deterring criminal activities or through intervention policies designed to address the root causes of criminal activities (Pavišić *et al.*, 2006). Prevention of crime is also related to the self-protective behaviour of each individual, who may reduce the risk by behaving responsibly and conscientiously (Mawby and

Vakhitova, 2022; Ozascilar and Mawby, 2022). Therefore, the prevention of crime implies taking various precautionary measures and actions which reduce risk and increase the feeling of safety among tourists, but is also includes measures for deterring the perpetrator away from criminal behaviour. Such preventive actions are part of comprehensive risk assessment (Mansfeld and Pizam, 2006) and integrated multi-stakeholder crisis management planning (UNWTO, 2006; Martens *et al.*, 2016; Bundy *et al.*, 2017; Belyaeva *et al.* 2020), public awareness and education campaigns (Ferreira and Harmse, 2000; Chataway and Hart, 2018), community policing and community engagement and partnerships between stakeholders (Soska and Ohmer, 2018; McGuire *et al.*, 2021; Prenzler and Sarre, 2023), public safety infrastructure and enhanced surveillance systems (George, 2003; Laufs *et al.*, 2020; Laufs and Borrion, 2022), etc. All these measures assume a higher level of safety and can influence on safety perception in a destination (Zou and Yu, 2022).

A person commits the criminal act when recognizing an opportune moment or a vulnerable victim or unprotected object (Borovec *et al.*, 2011: 29). During tourism season, there is an increase of criminal acts committed in tourism objects (accommodation capacities, restaurants, etc.) or on beaches (Biagi and Detotto, 2014). Unlike private accommodation, in hotel capacities there is a relatively high level of security control and protection; an organized system of technical security, protocol procedures in crisis situations, surveillance, employee training, etc. (Petar and Laušić, 2010). This is why during the summer it is more likely that apartments, vacation rentals, camps and vehicles will be targeted instead.

## AREA OF RESEARCH

Zadar County is a developed tourism destination situated in the Croatian coast, with a continuous increase of tourist arrivals in recent years. To illustrate, in the five-year period before the pandemic, tourist arrivals were growing annually on average by about 8%, and overnights by 6%, while in the record year 2019, 1.76 million tourist arrivals and 9.87 million overnights were achieved (CBS, 2020). The basic attractive resource of Zadar County is the pleasant climate and the sea, therefore about 70% of the total tourist arrivals is realized in the peak of the summer season (June-August). Due to the pronounced seasonality, certain negative effects of tourism are evident in that period (ZADRA and UNIZD, 2013; UNIZD, 2016), among which is crime. In the following table, it is possible to see how most of the criminal acts are connected with the high seasonality in a destination (Jones *et al.*, 2011).

| Year       | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020  | 2021  | 2022  | 2023  |
|------------|------|------|------|------|------|------|------|-------|-------|-------|-------|
| Share in % | 74.8 | 73.6 | 74.4 | 71.3 | 72.5 | 64.3 | 59.4 | 52.01 | 50.60 | 51.74 | 51.27 |

Table 1. Share of property crimes committed during the summer season (June-September) in the total number of crimes in Zadar County, 2013-2023

Source: Zadar County Police Administration, 2024

From the Table 1 it is seen that the share of crimes committed in the main season in the total number of crimes has been falling since 2013, which is especially visible in the years of the pandemic, when tourism activity was lower. Table 2 (below) shows the type of criminal offences. During the summer months, the most crimes are related to pickpocketing and theft from beaches, followed by attacks on vehicles and restaurants. The table also shows that the number of committed individual crimes varies over the years, however, it can be determined that the total number of crimes is increasing until 2017, after which it noticeably is decreasing. The total number of criminal offenses at the level of an individual year and observed period is satisfactory, considering the continuous increase in the number of tourist arrivals and overnights in Zadar County. Also, the reduced number of criminal thefts during 2020 and 2021 can be attributed to reduced tourist activities during the pandemic.

| Theft / Years                 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|
| From the beaches              | 44   | 37   | 43   | 45   | 56   | 44   | 30   | 19   | 24   | 32   | 44   |
| From the vehicle              | 36   | 30   | 41   | 38   | 34   | 33   | 26   | 18   | 13   | 20   | 23   |
| From hotel rooms              | 6    | 7    | 7    | 12   | 1    | 5    | 6    | 5    | 3    | 1    | 8    |
| From tents or mobile homes    | 10   | 5    | 9    | 8    | 19   | 6    | 3    | 1    | 4    | 10   | 9    |
| From motorhomes               | 17   | 22   | 31   | 15   | 8    | 19   | 22   | 6    | 6    | 7    | 10   |
| From the vessel               | 18   | 15   | 22   | 15   | 28   | 13   | 19   | 12   | 8    | 15   | 17   |
| From the apartment and houses | 28   | 13   | 14   | 33   | 46   | 32   | 28   | 7    | 5    | 5    | 10   |
| From catering facilities      | 34   | 43   | 30   | 44   | 28   | 24   | 21   | 6    | 9    | 14   | 18   |
| Pickpocketing                 | 68   | 87   | 119  | 109  | 164  | 97   | 40   | 38   | 111  | 39   | 58   |
| Total                         | 261  | 259  | 316  | 319  | 384  | 273  | 195  | 112  | 183  | 143  | 197  |

Table 2. Criminal offenses of theft during the summer season (June-September) in Zadar County, 2013-2023

Source: Zadar County Police Administration, 2024

Although these data indicate the presence of crime in tourism, the crime rate is on the very low level. However, the largest number of thefts is related to pickpocketing, as well as thefts on beaches and in vehicles, which are the most common crimes in tourism destinations (Holcomb and Pizam, 2006; Biagi and Detotto, 2014). The level of safety in Zadar County is also indicated by the results of previous research, because the safety was one of the tourists' motives for coming to Zadar County (UNIZD, 2019), and during the stay they were extremely satisfied with the safety, rating it highly (ZADRA and UNIZD, 2013; UNIZD, 2016).

To assure the safety, the Crime Prevention Council operates in Zadar County. It supports national preventive projects, and is responsible for local preventive projects in the County. The Council includes stakeholders from various fields of activity (public and private sector, and NGO-s). The goal of the Council's work is cooperation, exchange of knowledge and a multidisciplinary approach to crime prevention and security in Zadar County (Zadar County Crime Prevention Council, 2024). The Council implements various projects, programs, measures and activities in order to systematically monitor, analyse and improve the level of safety in the entire area. Among other, continuous educations (community engagement, cooperation, technical protection, etc.) have been carried out since 2015 with the aim of raising the level of awareness, responsibility and self-protective behaviour of the local community and tourists. Also, during the summer season, foreign police officers stay in the Zadar County and together with Croatian police officers, they patrol the streets, tourist settlements and other areas. They talk to tourists in their native language, advise them on self-protective behaviour and provide other necessary information related to safety and a pleasant stay in the destination.

## RESEARCH METHODOLOGY

Research was conducted in Zadar County to determine the level of self-protective behaviour of renters in private accommodation and tourists, as relevant stakeholders of the tourism destination and those to whom the prevention program is mostly directed. Renters in private accommodation are important because they occupy 69% of the total accommodation capacity in Zadar County (Tourist Board of Zadar County, 2023), and according to the given data, a significant proportion of criminal offenses are committed in them. Tourists were included in order to determine the level of their self-protective behaviour and their perception of safety in the destination. Also, by their behaviour, these groups of stakeholders can significantly influence on prevention of criminal acts and the level of security in the destination. Therefore, a survey was conducted on these groups on three occasions (in 2018, 2020 and 2022) in order to observe possible changes in behaviour. The structured questionnaire contained questions related to crime prevention and self-protective behaviour, the perception of safety in Zadar County and the impact of safety on the decision when choosing a destination, etc. With this questionnaire, a larger number of respondents was wanted to be included in the sample. For easier understanding of the research subject, the questionnaire was offered to tourists in 5 languages. When evaluating statements which describe behaviour and express opinions on various factors, the same neutral scale from -2 to 2 was used for both groups of respondents. In some questions, the same particles were used to compare attitudes of renters and tourists.

## RESEARCH RESULTS AND DISCUSSION

There are 105,628 accommodation units in private accommodation available for tourists in the Zadar County (Tourist Board of Zadar County, 2023). Based on the database of the Zadar County Tourist Board, a questionnaire was sent electronically to renters in private accommodation. The research was conducted outside the summer season, assuming that renters are less burdened with work and will have more interest in participating in the research. The sample of tourists was random, and the questionnaire was conducted physically with the presence of the interviewer during the summer season at different tourist locations that were considered suitable for the survey. In the Table 3 sample of respondents is shown, and it is evident that the sample is not evenly distributed according to the observed groups of stakeholders and the years of the research. The relatively small number of respondents in all years of the research is imposed as a fundamental limitation of the research. This can be explained by the weak interest of potential respondents in participating in the research, which is very probably conditioned by the topic of security and outlining self-protective behaviour. Namely, although the questionnaire was anonymous, the questions in the questionnaire clearly touch on the personality of the respondents.

| Sample of respondents            | 2018 | 2020 | 2022 | Total |
|----------------------------------|------|------|------|-------|
| Renters in private accommodation | 305  | 157  | 209  | 671   |
| Tourists                         | 191  | 361  | 188  | 740   |

Table 3. Sample of respondents according to year of the research

Source: own research

In addition to the uneven distribution of respondents by age, the demographic characteristics of each group of respondents in the observed years are different. Here, only gender, age and level of education were considered, and this is shown in the table below.

| Demographic characteristic  | Renters in private accommodation |      |      | Tourists |      |      |
|-----------------------------|----------------------------------|------|------|----------|------|------|
|                             | 2018                             | 2020 | 2022 | 2018     | 2020 | 2022 |
| Gender                      |                                  |      |      |          |      |      |
| Male                        | 37%                              | 38%  | 31%  | 46%      | 55%  | 50%  |
| Female                      | 63%                              | 62%  | 69%  | 54%      | 45%  | 50%  |
| Age                         |                                  |      |      |          |      |      |
| 18-25                       | 2%                               | 2%   | 3%   | 30%      | 21%  | 21%  |
| 26-35                       | 11%                              | 6%   | 7%   | 27%      | 22%  | 41%  |
| 36-45                       | 20%                              | 23%  | 22%  | 21%      | 27%  | 21%  |
| 46-55                       | 29%                              | 24%  | 26%  | 11%      | 18%  | 10%  |
| 55-65                       | 25%                              | 32%  | 26%  | 6%       | 10%  | 5%   |
| 66 and more                 | 14%                              | 13%  | 18%  | 5%       | 2%   | 2%   |
| Highest level of education  |                                  |      |      |          |      |      |
| Elementary school           | 3%                               | 3%   | 4%   | 0%       | 3%   | 1%   |
| High school, grammar school | 39%                              | 33%  | 16%  | 22%      | 33%  | 25%  |
| College education           | 18%                              | 17%  | 15%  | 38%      | 14%  | 23%  |
| Bachelor's degree           | 5%                               | 4%   | 4%   | 15%      | 21%  | 21%  |
| Higher vocational education | 29%                              | 35%  | 54%  | 18%      | 24%  | 11%  |

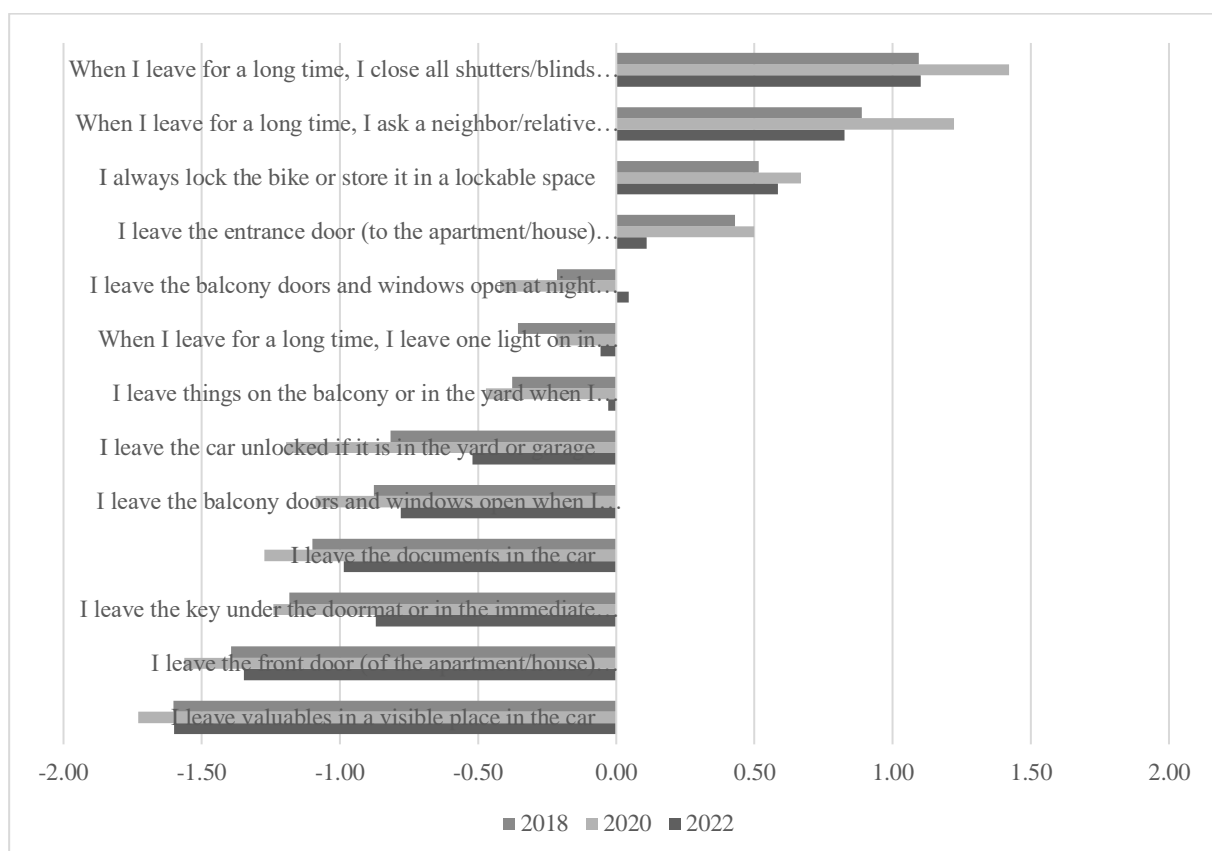
|                         |    |    |    |    |    |     |
|-------------------------|----|----|----|----|----|-----|
| Master's degree and PhD | 7% | 8% | 7% | 7% | 6% | 20% |
|-------------------------|----|----|----|----|----|-----|

Table 4. Demographic characteristics of the respondents

Source: own research

All age groups were represented in all years, with respondents between the ages of 36 and 55 predominating among renters in private accommodation (about 50%), while slightly younger respondents predominated among tourists, in aged 18 to 35 (about 50%). More than a third of the surveyed renters in private accommodation and tourists have completed a university degree. Respondents of both groups most often work in the public and private sector (around 40%). Renters in private accommodation mostly have their rented units in their own house (about 50%). The surveyed tourists stayed in different types of accommodation, where private accommodation and hotels predominate. Also, these are experienced tourists who usually travel twice a year, with family, partner and friends.

The focus of the research was to determine the level of self-protective behaviour of the observed groups of stakeholders in the destination. The following graph shows the self-protective behaviour of renters in the observed years. In the answers, a scale from -2 (does not apply to me at all) to 2 (completely applies to me) was used, with which respondents evaluated statements related to self-protective behaviour.



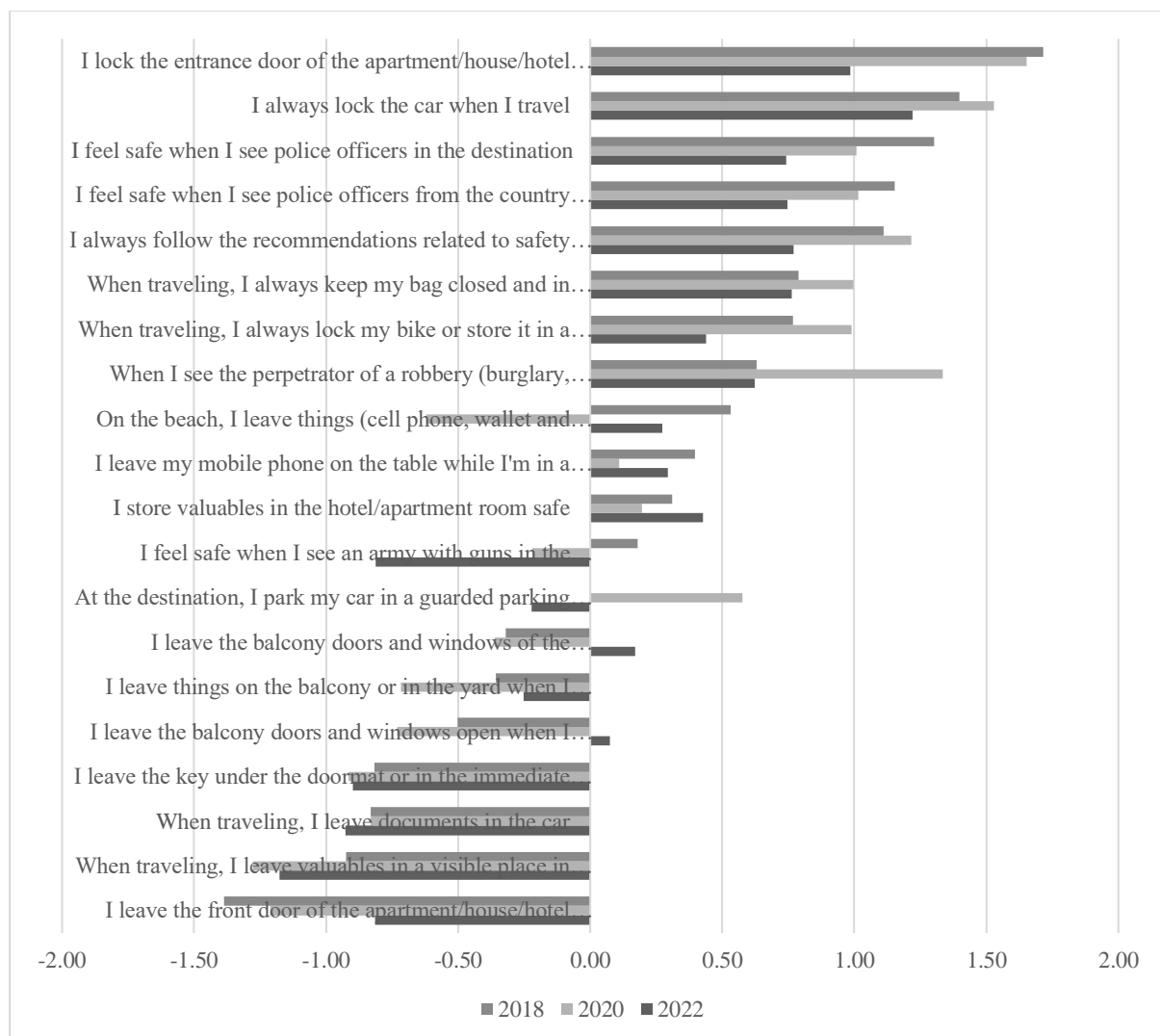
Graph 1. Self-protective behaviour of renters in private accommodation

Source: own research



Assertions are defined as desirable (self-protective) behaviour with expected positive values, while others are described as undesirable behaviour with expected negative values. This behaviour is based on social and situational prevention (Habibitabar *et al.*, 2023), and outlines the responsible behaviour of the individual. Although the respondents are adults (mostly between the ages of 36 and 55), it is evident that they are still not fully responsible and conscionable. However, it should be taken into account that the perception and feeling of safety in the destination itself can also influence on the relaxed behaviour of the individual (Zou and Yu, 2022).

Tourists expressed the level of self-protective behaviour in the destination in the same way, and their assessment is shown in the next graph. In the answers, a scale from -2 (does not apply to me at all) to 2 (completely applies to me) was used, with which respondents evaluated statements related to self-protective behaviour.



Graph 2. Self-protective behaviour of tourists

Source: own research

Among tourists, a certain level of self-protective behaviour and attention to their property is also visible, however, not a single particle has a maximum value either. It is interesting to note that the values of desirable behaviour among tourists mostly decreased compared to the initial year. Comparing the same particles, i.e., the behaviour of tourists with renters in private accommodation, it can be determined that tourists are more considerate and cautious. This is not surprising, considering they stay outside the usual environment and probably have less trust in the resident population. In terms of self-protective behaviour and reduction of potential criminal acts (Mawby and Vakhitova, 2022; Ozascilar and Mawby, 2022), the destination should certainly continue to work on the public awareness and education campaigns (Ferreira and Harmse, 2000; Chataway and Hart, 2018), and community engagement and partnerships between stakeholders (Soska and Ohmer, 2018; McGuire *et al.*, 2021; Prenzler and Sarre, 2023).

Respondents also evaluated the importance of self-protective behaviour, crime prevention, detection of perpetrators and other safety measures. The evaluation is given in the table below, using the scale from -2 (it is not important at all) to 2 (it is very important).

| Behaviour   | Renters in private accommodation |      |      | Tourists |      |      |
|---|----------------------------------|------|------|----------|------|------|
|   | 2018                             | 2022 | 2022 | 2018     | 2020 | 2022 |
| Responsible behaviour of each individual for his property and life (self-protection measures) | 1.79                             | 1.85 | 1.85 | 1.60     | 1.59 | 1.40 |
| Mutual cooperation of the local population (with neighbours and other residents)              | 1.80                             | 1.89 | 1.89 | 1.47     | 1.35 | 1.35 |
| Cooperation of citizens and tourists with the police  | 1.79                             | 1.77 | 1.77 | 1.55     | 1.44 | 1.35 |
| Report to the police as soon as possible  | 1.79                             | 1.82 | 1.82 | 1.59     | 1.38 | 1.22 |
| Equipment of buildings with means of technical protection                                     | 1.22                             | 1.37 | 1.37 | 1.55     | 1.49 | 0.94 |
| Reporting any suspicious behaviour  | 1.28                             | 1.29 | 1.29 | 1.22     | 1.13 | 0.67 |

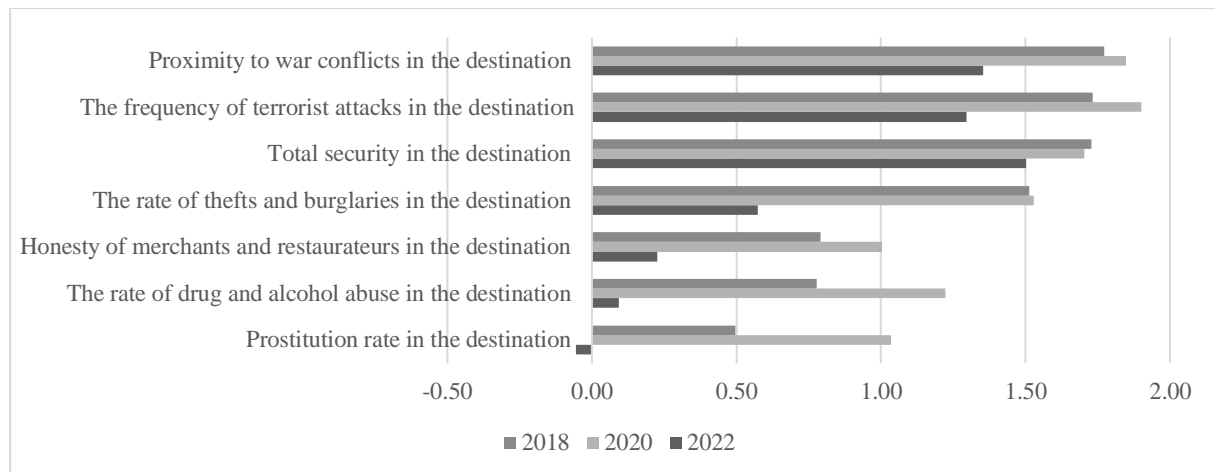
Table 5. Importance of self-protective behaviour, crime prevention and detection of perpetrators in a destination

Source: own research

The table shows different attitudes between groups of respondents. Renters in private accommodation are more aware than tourists, which can be interpreted by their perception of the impact of tourism and importance of safety in a destination. It seems equipment of buildings with means of technical protection are most important for tourists. At the same time, renters in private accommodation do not have any special protection and crime prevention measures (only 15% of them have alarm, anti-burglary system or camera). Also, around 43% of respondents in private accommodation provide insurance for burglaries, thefts, etc., although it does not particularly mean to tourists, because the measure does not indicate prevention itself, but rather the consequences of the crime committed. Therefore, all stakeholders in the destination have obligation to improve the partnerships and

community engagement, as well the safety infrastructure and surveillance systems (George, 2003; Soska and Ohmer, 2018; Laufs *et al.*, 2020; McGuire *et al.*, 2021; Laufs and Borrion, 2022; Prenzler and Sarre, 2023).

Tourists also evaluated the influence of certain security elements on the decision when choosing a destination, using the scale from -2 (it is not important at all) to 2 (it is very important).



Graph 3. Safety factors influencing when choosing a destination

Source: own research

The graph above shows the importance that tourists attach to safety elements when choosing a destination. Certainly, it is evident that the proximity of the destination to the wars, the frequency of terrorist attacks and general safety in the destination are the elements that tourists pay the most attention to. Considering the continuous and various safety and security threats, like wars, terror, crime and diseases, safety in the destination is certainly one of the key motives for contemporary travelling (Breda and Costa, 2006; Pizam and Mansfeld, 2006; Brown, 2015; Zou and Yu, 2022).

Ultimately, both groups of respondents rated the level of security in Croatia and destination, and the ratings can be seen in the table below. Respondents used the scale from -2 (it is not safe at all) to 2 (it is completely safe).

| Area                           | Renters in private accommodation |      |      | Tourists |      |      |
|--------------------------------|----------------------------------|------|------|----------|------|------|
|                                | 2018                             | 2020 | 2022 | 2018     | 2020 | 2022 |
| Republic of Croatia            | 1.51                             | 1.49 | 1.32 | 1.38     | 1.61 | 1.74 |
| Zadar County                   | 1.52                             | 1.39 | 1.33 | 1.41     | 1.66 | 1.81 |
| The city of Zadar              | 1.46                             | 1.23 | 1.23 | 1.52     | 1.57 | 1.81 |
| The city/town of accommodation | 1.60                             | 1.47 | 1.54 | 1.56     | 1.76 | 1.82 |

Table 6. The perception of safety

Source: own research

The respondents perceive relatively higher level of safety in the destination, with this perception growing especially among tourists, which is positive from the aspect of destination image (Brown,

2015; Zou and Yu, 2022). This is also in accordance with the results of previous research, according to which tourists come to Zadar County because of safety (among other reasons), and rate it highly (ZADRA and UNIZD, 2013; UNIZD, 2016, 2019).

## IMPLICATIONS

The research results indicated a certain level of self-protective behaviour among renters in private accommodation and tourists in Zadar County, although there remains place for improvement. Simultaneously, there is a relatively high perception of the importance of self-protective behaviour and a strong perception of safety in both Croatia and the County. Despite the Zadar County Crime Prevention Council's implementation of various safety and security measures, it cannot be definitively concluded that these measures are solely responsible for the current situation. Nonetheless, their efforts are evident and should be sustained, with the introduction of new measures and actions aimed at elevating prevention and self-protective behaviour to the highest level. However, this should be done with caution. Emphasizing and promoting safety from the perspective of destination image and destination management organization (Zou and Yu, 2022) can be risky if the perceived safety is suddenly compromised.

Continuous and diverse educational programs and campaigns targeting different groups and local stakeholders are undoubtedly the most effective measures for enhancing safety in a destination. These initiatives change behaviour and facilitate the flow of safety information to tourists (Ferreira and Harmse, 2000; Chataway and Hart, 2018; McGuire *et al.*, 2021). Such behaviour strengthens public awareness, stakeholder collaboration, and community engagement, all of which are crucial for providing and maintaining safety in a destination (Soska and Ohmer, 2018; McGuire *et al.*, 2021; Prenzler and Sarre, 2023). Accordingly, all stakeholders should continue investing in safety infrastructure and enhanced surveillance systems (George, 2003; Laufs *et al.*, 2020; Laufs and Borrion, 2022). To monitor the effectiveness of these safety measures, future research should expand the group of stakeholders and increase the sample size. For renters in private accommodation, it is essential to include those who have participated in previous research to monitor specific progress. Additionally, research should be conducted from pre-season to post-season, including loyal tourists, and examine factors such as the country and size of the place of residence. These elements influence perceptions and attitudes towards safety, thereby affecting levels of personal self-protective behaviour.

## CONCLUSION

Considering the turbulent environment and characteristics of contemporary tourism, safety and security should be an imperative for all tourism destinations. However, it is not possible to ensure

complete safety, as it comprises several segments influenced by various factors. Ensuring safety and security is a complex, long-term process that requires the efforts of all relevant stakeholders, including those who are frequent victims of criminal acts. Most security measures and protective instruments fall under the authority of relevant institutions and are part of the security system of a state or business entities. However, other measures involve interest groups that are indirectly responsible for safety and security. A quality security system is effective but also expensive. Preventive and self-protective behaviour by related interest groups over the long term could be more cost-effective and efficient. Given the complexity and heterogeneity of tourism, such responsible behaviour is desirable because it can enhance the effectiveness of the security system in tourism. This type of behaviour is part of the culture and can be easily transmitted and communicated within a community. Additionally, many infrastructural and soft measures are available. These can be implemented through community engagement, with a focus on safety as a key element of the modern standard of living.

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## LESSONS IN BUSINESS LONGEVITY FROM KONGO GUMI CO. LTD.: THE WORLD'S OLDEST FAMILY BUSINESS

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### ABSTRACT

Entrepreneurship is the driving force for economic growth and development. A 2022 study shows an estimated 5.5 million family businesses worldwide, accounting for 10% to 15% of the global GDP. The research paper aims to investigate one such family business called Kongō Gumi Co., Ltd. (株式会社金剛組, Kabushiki Gaisha Kongō Gumi), a Japanese company founded in 15 AD, making it the world's oldest company. The research explores lessons from Kongō Gumi Co., Ltd., which testify to longevity and sustainability over the 1400 years. A qualitative methodology was adopted to conduct a case study analysis using information from three primary sources: academic publications, encyclopedia entries, and historical publications. Data triangulation was adopted as a research method to gain a more comprehensive understanding. The key findings are that the company invested heavily in apprenticeships and training. They practiced utmost visibility and transparency of business financial aspects. The research investigates their approach towards sustainability, their competitive strategies, and the strategies adopted to overcome many of the challenges they have experienced over unprecedented changes since their inception. The research presents a story that would inspire academics and practitioners with implications and insights from business, history, and culture.

*Keywords: Family Business, Strategy, Longevity, Governance*

### INTRODUCTION

Businesses over the years have always been associated with the risk of survival and surrounded by uncertainty and rapid change. Business leaders aspire to find a strategic fit between the internal and external environment. Every business journey worldwide is unique as they vary in nature, size, resource availability, financial capability, leadership, and economic, sociocultural, and geopolitical business landscape. A business is any organization that is involved in the production or distribution of goods and services. It can be owned and operated by individuals, groups of individuals, or corporations. A family business, on the other hand, is a business that is owned and operated by



members of the same family. All kinds of companies aspire for sustainable growth and strategies to weather disruption along their journey.

Scholars, leaders, and entrepreneurs have been interested in learning how to be successful and profitable. Renowned thought leaders and management Gurus claim that entrepreneurship is the driving force behind economic growth and prosperity. Understanding and identifying key challenges and entrepreneurial characteristics are vital, as disruptive technologies can displace established businesses. Extensive research over the years provides insights into the challenges and opportunities companies face and the strategies imperative to succeed.

According to a 2022 study by EY, there are an estimated 5.5 million family businesses worldwide, accounting for 10-15% of global GDP. Of these, about 200,000 are "well-established," meaning they have been operating for at least 20 years. The study also found that family businesses are more likely to be successful than non-family businesses. For example, 33% of family businesses survive the third generation, compared to only 12% of non-family businesses. Several factors contribute to the success of family businesses. These include strong family values, clear succession plans, and professional management. Family businesses are also more likely to be resilient in facing challenges, such as economic downturns. Samsung, Honda, Walmart, Heineken, and Estée Lauder are a few examples of the many well-established family businesses worldwide. These businesses have been successful for many years and play an essential role in the global economy.

One such family business is Kongō Gumi Co., Ltd. (株式会社金剛組, Kabushiki Gaisha Kongō Gumi). It was a Japanese construction company founded in 578 AD, making it the world's oldest company. The company specializes in designing, constructing, restoring, and repairing shrines, temples, castles, and cultural heritage buildings. A family of carpenters brought to Japan from Baekje (present-day South Korea) by Prince Shōtoku Taishi founded Kongo Gumi. The company was initially called Kongō-shō (金剛庄), and it was responsible for building the Shitennō-ji temple in Osaka, which is one of the oldest temples in Japan. Kongo Gumi continued to thrive for centuries and constructed many important buildings, including Osaka Castle, the Kiyomizu-dera temple, and the Nara temples. The company also expanded its operations to countries like China, Korea, and Vietnam.

The present research aims to explore the lessons from Kongō Gumi, a testament to longevity and sustainability over the last 1400 years. The present case study can be applied to any business, regardless of size or industry. By adapting to change, innovating, and staying true to its family values, Kongō Gumi achieved business longevity.

## LITERATURE REVIEW

The oldest family business in the world is Kongo Gumi Co. Ltd., a Japanese construction company founded in 578 AD. The same family has managed Kongo Gumi Co Ltd. for over 1,400 years. Kongo Gumi Co Ltd. was in operation for over 1,400 years until it was acquired by Takamatsu, a larger construction company, in 2006, due to financial difficulties. However, the Kongo family still operates a temple-building business as a subsidiary of the larger construction company. Before the acquisition, Kongo Gumi Co Ltd. employed over 100 individuals, with an annual budget of around \$70 million (Fisk, n.d.).

While Kongo Gumi has been the subject of various research studies, research gaps may remain for further investigation. Park et al. (2021) assessed the strategic and operational levels, where sustainability requirements are essential, sustainability differs from legal compliance, and there is an opportunity to implement sustainability practices. Hanusch et al. (2020) formulated 12 initial design principles, serving as the basis for explaining specific organizations' longevity, challenges, and governance. Hagan (2021) postulated a complete narrative using history, financial information, and research to correlate a perspective of the family office formation over a period of time. Sone (2022) identified the attributes pertaining to the firm's long-standing survival and the partnership between family generations and the local community served. Birdthistle (2022) explored the family business and its relevance on the economy. Parkinson et al. (2022) found that resilience was critical in long-standing businesses. This literature review will provide an overview of family business strategy, succession planning, innovation and diversification, stakeholder relationships, and sustainability. The goal of the literature review will be to understand factors contributing to Kongo Gumi's history, longevity, success, and legacy implications for contemporary business practice.

#### *Family Business Strategy*

Family business strategy is derived from ethical, environmental, social, and cultural practices leading to better management, enhanced value, and significant performance (Rivo-Lopez et al., 2021). The family business strategy provides a roadmap for governance, activities, rules, and structure (Frezatti et al., 2022). As with any strategy, the family business strategy ebbs and flows based on the political, environmental, social, and technological factors underlying the industry.

#### *Family Business Innovation, Succession Planning, and Diversification*

Family business innovation balances risk-taking and strategic insights to achieve a competitive advantage for their firm (Rondi et al., 2019). Diversification enables family businesses to identify a set of parameters to determine a course of action for the form (Hafner, 2021). For long-standing businesses, family business innovation ensues through actively assessing tradition, the need for change through diversification, and the organization's structure (Sone, 2021). The organization's structure fulfills the

current need to meet customer demand and provide operational oversight. Succession planning ensures its ability to respond to the market and the organization's longevity (Porfirio et al., 2020).

#### *Stakeholder Relationships*

Collaborative practices are essential in family businesses now more than ever. As markets quickly adapt to customer needs and disruptions, the family business and stakeholder relationships are crucial to ensure future viability (Amoako-Gyampah et al., 2019). The depth of the relations, whether governmental, supplier, or customer, depends on the family business's chosen direction and anticipated outcomes (Miller et al., 2021).

#### *Sustainability*

From the United Nations Brundtland Commission, sustainability encompasses “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” (United Nations, n.d.). Millan-Tudela et al. (2023) discovered that corporate sustainability might encompass sustainability and entrepreneurial activity. For family businesses, sustainability includes ensuring that the firm's needs are met without compromising the future health of the organization and the communities it serves (Porfirio et al., 2020). Family businesses are keenly aware of the impact made internally and for society, specific to the family businesses' vision, values, and actions (Porfirio et al., 2020). Write and save your paper keeping text and graphic files separate until after the text is formatted. Do not use hard tabs, limit use of hard returns to only one at the end of each paragraph and do not add pagination anywhere in the paper. Proceed to formatting once you are done with completing the content and organizational editing.

## **METHODOLOGY**

The central qualitative research question (RQ) was:

How do a family business's strategic and operational considerations respond to the environmental, social, and governance challenges of the societies in which they operate?

The research question is relevant to theory since family businesses' strategic and operational actions impact the societies in which they operate. Additionally, the practical application of the study findings may cultivate the economy, innovate services and products delivered, and enhance the quality of relationships needed for long-term survival. Using the qualitative method case study design for this study enabled the identification of successful strategies used by family business leaders. The qualitative methodology supported this study because the focus was on gathering detailed descriptions of strategies and practices that have enabled the company to survive and adapt for centuries. The case study design supported this study since the focus was on using a single business to provide detailed

descriptions of strategies and practices that have enabled the company to survive and adapt for centuries.

The researcher collected information about Kongo Gumi Co Ltd. using three source types: academic publications, encyclopedia entries, and historical organizational publications. For Kongo Gumi Co Ltd., the search terms used in the data analysis were:

- Kongo Gumi Co. Ltd.
- World's oldest family business
- Business longevity
- Lessons from Kongo Gumi"
- Success factors for family businesses
- Strategies for Business Survival
- Principles of business continuity
- Case studies of successful family businesses

The researchers used data triangulation to develop a rich understanding of phenomena (Patton, 1999), precisely a family business's strategic and operational considerations in response to the environmental, social, and governance challenges of the societies in which they operate. Based on the literature review, the researchers developed an analytical model that allows us to connect the information gathered, interpret its meaning, and propose critical themes.

## **FINDINGS**

Kongo Gumi Co Ltd.'s core competency in traditional Japanese architecture, specifically the construction of Buddhist temples and Shinto shrine architecture, combined with its unique skills, techniques, and reputation for quality, has given the company a competitive advantage in the construction industry (Nakazawa, 2020). The company established a niche in the market and developed unique expertise. The company also invested heavily in apprenticeship and training. Management realized the importance of ensuring that the independent craftsmen's skills, practices, and techniques were shared internally to improve the competence of all craftsmen (Nakazawa, 2020). The best practices and techniques were documented in manuals and flow charts for all employees to enhance the organization's capabilities. Additionally, the financial side of the business was shared with the employees to promote visibility and transparency into the organization's financial performance and to align an employee's contribution to the organization (Nakazawa, 2020).

Leadership was essential for the Kongo family. The approach to managing the family business consisted of choosing leaders who were both recognized as skilled craftsmen and highly regarded leaders (Nakazawa, 2020). This strategy supported the family business through turbulent times. In cases where the fit was not apparent, the individual would be removed from leadership accordingly (Nakazawa, 2020). Additionally, the Kongo family and the branch family would collaborate to ensure the success of the family business (Nakazawa, 2020).

Kongo Gumi Co Ltd. adopted the generic business competitive strategy of quality to build a reputation for excellence, the ability to change, and attract repeat business. Long-standing relationships with all stakeholders ensured a steady workflow over the years (Nakazawa, 2020). The family business adjusted to the market to ensure business continuity. Over the years, the company primarily focused on traditional Japanese architecture and diversified into general construction and real estate to increase its revenue stream (Nakazawa, 2020).

One of the biggest challenges that Kongo Gumi Co Ltd faced was the global financial crisis, which had a significant impact on the construction industry, resulting in decreased demand that negatively impacted revenue and profits (Nakazawa, 2020). To overcome the challenges, the company drastically cut costs, diversified the business, formed strategic alliances to expand to new markets, and maintained its focus on quality and customer service (Nakazawa, 2020).

In 2005, Kongo Gumi Co Ltd merged with Takamatsu Construction Group. Takamatsu Construction Group focuses on construction in Japan and comprises 22 companies contributing to the "preservation and protection of Japanese cultural heritage and property (Takamatsu Construction Group, n.d.). Employees now employed with the Takamatsu Construction Group have been instrumental in using their carpentry craft to preserve the culture within several projects, most notably the Japanese Cabinet Office for Public Relations.

#### *Business approach towards sustainability*

Kongō Gumi's sustainability initiatives exemplify how family businesses can positively affect society. Family businesses can help create a more sustainable and equitable future by addressing environmental, social, and governance challenges.

#### *Environmental*

The company has a policy of using sustainable materials in its construction projects. Kongō Gumi is also committed to using recycled materials in its construction projects. The company also has a program to promote energy efficiency in its construction projects. This program has helped to reduce the energy consumption of its buildings.

#### *Social*

The company has a solid commitment to corporate social responsibility. It supports several charitable causes, such as education and poverty alleviation. It also has a program to promote diversity and inclusion in the workplace.

#### *Governance*

The company has a board of directors responsible for overseeing its management. The board encompasses independent directors who are not related to the founding family. The company also has a code of ethics demonstrating its commitment to ethical business practices. The company's long history of sustainability shows that it is committed to doing business in a way that benefits society and the environment.

## **CONTRIBUTIONS**

Kongo Gumi Co. Ltd. would inspire readers interested in business, history, and culture. The company's 1,400-year history of specializing in traditional Japanese architecture, surviving wars and natural disasters, and adapting to changing times is a remarkable example of how a business can thrive for centuries. The research provides insights into the company's business strategies, including its focus on strategy, quality, ability to change, innovation, diversification, sustainability, leadership, long-term relationships, and investment in apprenticeship and training. Moreover, it would highlight the role of Kongo Gumi Co Ltd in preserving Japan's cultural heritage and its contributions to the country's construction industry.

## **PRACTICAL IMPLICATIONS**

The study of Kongo Gumi Co Ltd, the oldest continuously operating family business in the world, provides valuable insights into the factors that contribute to the longevity and success of a family business. The study highlights the importance of focusing on quality, expertise, relationship management, flexibility capability in driving firm performance, and corporate social responsibility's role in ensuring the business's sustainability. This study explores longevity, family business practices, and social and cultural factor research as a new field of study. The study provides practical insights for entrepreneurs and business leaders on developing a sustainable and resilient business model that can withstand the test of time. The study also emphasizes the need for family businesses to innovate and diversify their product offerings to remain competitive in a rapidly changing global marketplace.

## **CONCLUSION**

Businesses over the years have always been associated with the risk of survival and surrounded by uncertainty and rapid change. According to a 2022 study by EY, there are an estimated 5.5 million family businesses worldwide, accounting for 10-15% of global GDP. In this backdrop, the present study explores the world's oldest company. The family business is Kongō Gumi Co., Ltd. (株式会社金剛組, Kabushiki Gaisha Kongō Gumi). It was a Japanese construction company founded in 578 AD; it is 1400 years old, making it the oldest company in the world. Based on the extensive literature, we framed the research qualitative question- The central qualitative research question (RQ) was: How do a family business's strategic and operational considerations respond to the environmental, social, and governance challenges of the societies in which they operate? The case study design supported this study since the focus was on using a single business to provide detailed descriptions of strategies and practices that have enabled the company to survive and adapt for centuries. The findings indicate that leadership was crucial to the survival and growth of the Business. Specific leadership qualities were also identified in the study. The study provides practical insights for entrepreneurs and business leaders on developing a sustainable and resilient business model that can withstand the test of time. However, the research has limitations, as the study focuses on secondary data sources with inherent biases or subjective interpretations. The research offers scope for other scholars to expand. Scholars could conduct a comparative analysis of multiple long-standing family businesses from different industries that could provide a broader understanding of the factors contributing towards business longevity.

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# **SUPPORT OF FEMALE ENTREPRENEURSHIP AT GERMAN UNIVERSITIES – A QUALITATIVE ANALYSIS OF SUPPORT CONCEPTS-**

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## **ABSTRACT**

Due to the high proportion of academic founders (cf. Kollmann et al. 2022), universities and university startup support centers play a relevant role in supporting startup projects in Germany. Despite numerous support activities in entrepreneurship, the number of registrations of commercial start-ups in Germany has tended to decline over the last 10 years (cf. IfM Bonn, 2023) and the proportion of female founders in start-ups is low (Sternberg et al. 2022). The situation in startups has worsened even further since the Corona pandemic (cf. Herold et al., 2022; cf. KfW (1), 2022). Implications on the gender gap in start-up activity as well as the analysis of concepts to close the gap form central contents of this research paper.

This research paper is based on a qualitative study (N=25 interviews). The research results provide new insights into the support landscape for women at the start-up-supporting universities in Germany.

Keywords: Female Entrepreneurship, Universities Start-up Support, Gender Equality

## **INTRODUCTION**

Despite the high relevance of innovations and start-ups for the economy as a whole and a wide range of efforts to promote start-ups, the number of start-ups in Germany is trending downwards.

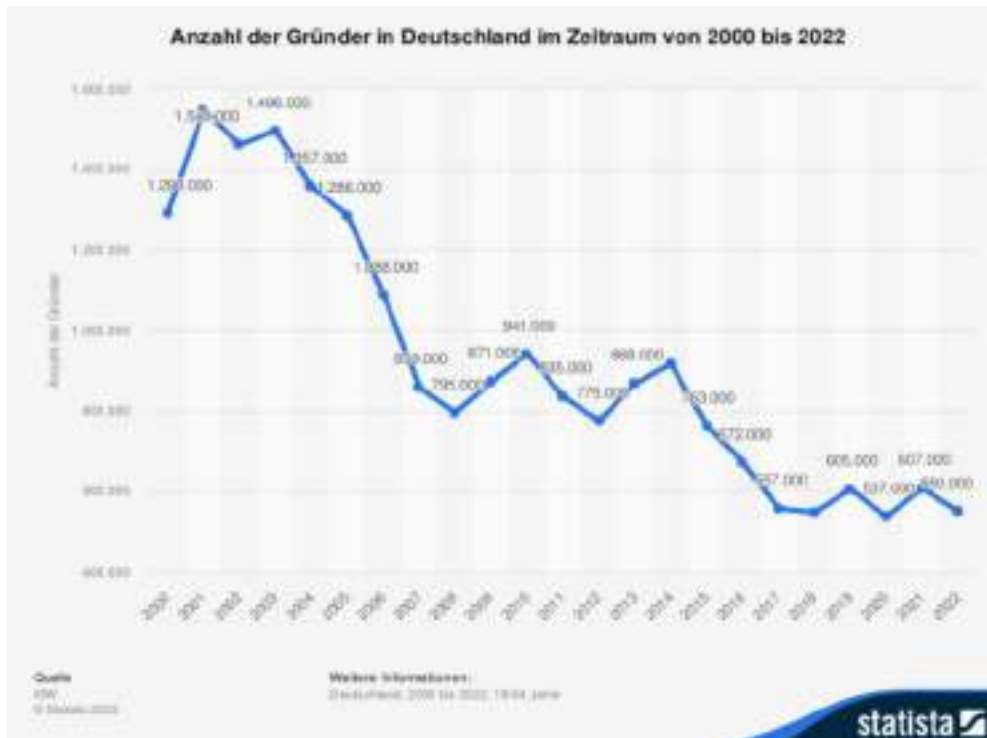


Figure 1: Number of business founders in Germany in the period from 2000 bis 2022, KfW, 2023

A look at the sociographic cross-section of the start-up structure in Germany shows a low proportion of female founders. At 5.3%, the early-stage entrepreneurial activity rate for women is currently statistically significantly lower than the rate for men (8.4%) (TEA = Total Early-Stage Entrepreneurial Activity describes the proportion of female founders among 18- to 64-year-olds, Sternberg et al. 2022). The gender gap is also reflected in a low proportion of female entrepreneurs of around 20.3 % in start-ups with a high degree of innovation (Kollman et al., 2022; Gather, Biermann 2021). In an international comparison, the proportion of female founders in Germany is therefore well below the average (Sternberg et al., 2022).

Looking at the development of gender distribution in Germany, it is clear that the origin of the gender gap in relation to start-ups can be already found in schools and universities.

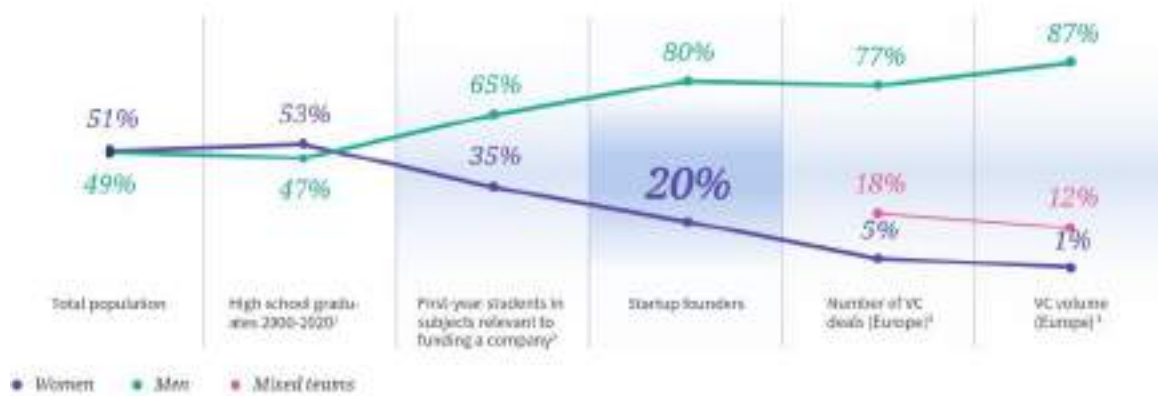


Figure 2: Gender gap in the German ecosystem based on Hirschfeld et al., 2022.

Almost 90 % of women who start a new business in Germany have an academic background ( Metzger, 2022). This is not the only reason why university support facilities and programs are so important. However, the gender gap is also significant in the university sector. At 29.7%, women make up less than a third of start-ups at universities (Frittsche et al., 2023). The aim of this research paper is to contribute to reducing the gender gap in the field of entrepreneurship by identifying opportunities to support women in start-up processes.

## LITERATURE REVIEW

Some scientific studies already provide approaches for optimizing start-up support for female founders by identifying gender-specific challenges in the start-up sector (cf. Alhajri & Aloud, 2023; Hirschfeld et al., 2020; Schell, 2009). In addition, there are already a lot of associations that are active in the field of female entrepreneurship, such as the Association of German Women Entrepreneurs and the WEgate initiative (wegate.eu, 2023).

Research articles have already established that women have a lower level of digitalization than men (see Initiative D21 e.V. and Kompetenzzentrum Technik-Diversity-Chancengleichheit, 2020) and have structural disadvantages when it comes to networking. For example, women have less efficient and effective networks than men (see Greguletz et al., 2018). The scientifically established higher risk aversion of women is another reason for the gender-specific differences in start-up-related activities (cf. e.g. Kremel, Yazdanfar, 2015). Compared to men, women also receive fewer financial resources to set up businesses and bear higher risks in self-employment when starting a family (Herold et al., 2022).

Although the overall proportion of women among students in all disciplines in Germany is 52.4% (Destatis, 2023 (2)), there is a high variance in the gender distribution between degree programs. For example, there is a lower proportion of female students in degree programs with a high propensity to start a business, such as STEM degree programs (cf. Metzger, 2022; cf. Frittsche et al., 2023), where only 34.5% of students are female (cf. Destatis, 2023 (1)). The proportion of female students is even lower in information and communication technology degree programs, where the proportion of female students is only 21.8% (cf. Destatis, 2023 (1)). These articles therefore already reveal a number of factors that may be linked to the low proportion of women in start-up projects.

Furthermore, implications of the Covid-19 pandemic affect startup activity in Germany. Irrespective of gender, the number of start-ups in Germany reached a millennium low during the Corona Pandemic in 2020 (cf. KfW (1), 2022). According to the KfW Gründungsmonitor, the share of start-ups by women increased in the period of the Corona pandemic 2019 - 2021 (cf. KfW (1), 2022). In contrast, Herold et al. (2022) note that the gender gap has widened since the beginning of the Covid 19 pandemic to the disadvantage of women since 2019 (cf. Herold et al., 2022).

## RESEARCH METHODOLOGY

This research paper discussed the findings from a qualitative study (N=25 interviews) with Entrepreneurship Support Center leaders at German universities (Frank, Schröder 2021) and provide insights into the support landscape for women. Two central research questions were posed:

1. are there currently explicit programs specifically for women in start-up support at German universities?
2. what kind of support programs are offered for women in start-ups at German universities?

In order to answer the research questions, representatives of start-up support centers at German universities (small, medium, large) were surveyed in 25 qualitative interviews as part of an exploratory study. The empirical study was conducted in 2021 and thus falls within the Covid 19 pandemic period. The selected universities were contacted via email and interviewed using a semi-structured interview guide for a total of 23 questions. To generate findings on support formats for women in the context of start-up support the representatives of the universities were asked about support offerings for different gender identities (m/f/d) in the context of start-up support. The interviews were conducted in a media-mediated manner using a web conferencing system and, after

consenting to the use of the data, were recorded. Following the analysis, the interviews were transcribed and the responses were categorized and evaluated using MAXQDA software.

## FINDINGS AND IMPLICATIONS

The evaluation of the data provided information on the type and frequency of start-up support services in general at the universities as well as on the current start-up support services specifically for women. A distinction was made between the current start-up support services for women at the time of the survey and the formats offered in the past.

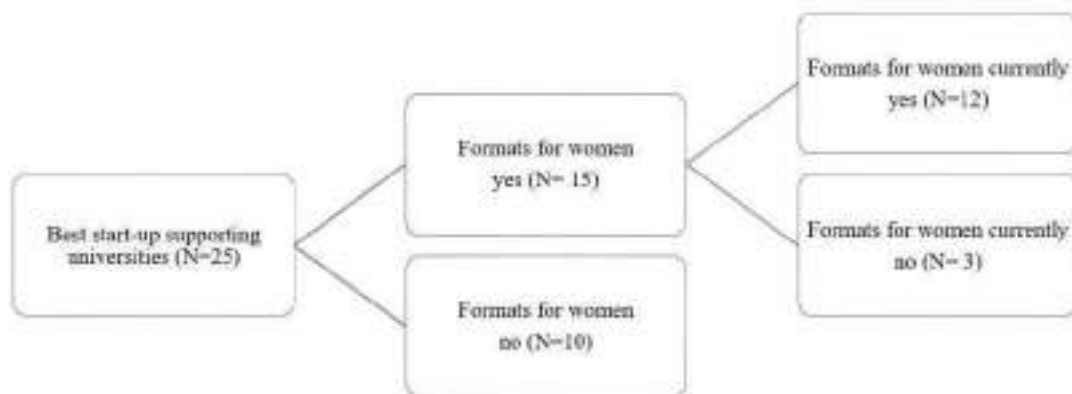


Figure 3. Programs for women in start-up support, visualization of data from empirical analysis, Ladwig D.H., Wohlert M.J., 2022, own illustration.

The evaluation of the analysis shows that a total of 12 of the 25 universities surveyed currently offer special formats to support women interested in starting a business. In addition, three universities stated that they had offered start-up support programs specifically for women in the past, but that these are no longer offered.

13 of the universities surveyed had no programs explicitly for women. They pointed out that a gender-specific offer would contradict the university's gender equality policy and that women-specific offers would lead to discrimination against male students and students of other gender identities. Although less than 50% of the startup-supporting universities had offerings for women in startup support, they were all sensitized of the issue (Ladwig, Wohlert, 2022).

In addition to analyzing the quantity of start-up support activities for women, findings were also collected on the quality, characteristics and content of start-up support.

One possible reason for the unequal gender distribution in the start-up scene at universities was that women tend not to start up spontaneously. Instead, when they do decide to start up, they are perceived as being very well prepared:

"I have simply noticed that when women start up, they have thought it through extremely well beforehand and that they have just researched their market intensively and worked out their innovation in detail. So it is often the case that they have actually developed an innovation on their own that is really not yet available on the market to this extent. And that, yes, that does make a difference. Less support work is necessary for me." (14)

"I would really say that in our university the distribution of men/women is perhaps 60 to 40 percent, if I make a rough estimate. And what I've also noticed is that the women are definitely more active and easier to reach than male start-up teams, they're often not as committed as the female ones." (3)

The formats currently offered for women predominantly offer workshops, qualification and awareness-raising events (N=5); female talks with women as "role models" (N=4) are also offered. The support programs for women also include networking events (N=3) (Greguletz et al., 2018), comprehensive support programs for women (N=3) (support programs outside the start-up support offices related to start-up support were also taken into account here or events and formats on gender equality issues (N=2). In addition, advisory coaching and mentoring programs by women for women (N=2) are also used (multiple answers possible).

20% of the universities described that the proportion of women participating in start-up support activities is higher than the proportion of start-ups resulting from these activities. It was also described that the more concrete and advanced start-up projects are in the start-up process and the more individual the support service is, the lower the proportion of women (cf. Ladwig & Wohlert, 2023).

"Now in teaching, the proportion of women is comparable to the proportion of women at the university, so there are easily a few more women than men, around 52 to 48 percent. The more specific this becomes in terms of starting a startup, the lower the proportion of women becomes. The proportion of women there is roughly between 25% and a third. Then it goes on to the Designbox, where some of the startups have already been founded. The proportion of women there is between 15

and 20 percent. So the proportion of women decreases the more concrete the project becomes. That's certainly the case with us and you can almost draw a straight line."(1)

This shows a phenomenon that there is also a leaky pipeline here, i.e. at the beginning of information events for students interested in founding a company, the number of women is even higher than later on in the founding process, which could be explained by the higher risk aversion of women, among other things.

At some universities, a high number of women are interested in intrapreneurship and may only want to start up later or contribute their entrepreneurial thinking and action skills to established companies.

"Exactly in the same normal distribution as you see in higher-level studies. In other words, a third of all students are women. And interestingly, a disproportionately high number of these students are interested in entrepreneurship. In other words, they are very interested in this topic, but not like students who want to start their own business. This is a small anomaly that perhaps also indicates certain behaviours and structures, that the interest is perhaps much more pronounced, but the willingness or the possibility or whatever the reason is to connect this with a concrete start-up at that moment, that is smaller."(2)

Again, 13 of the 25 universities surveyed did not offer any courses explicitly for women during the survey period. Reasons given for the absence of such programs varied among the universities. For example, an insufficient number of female students was sometimes given as the reason for this. It was also stated that a gender-specific offer would conflict with the university's gender equality mandate and that offers specifically for women would lead to a disadvantage for male students. The qualitative evaluation reveals a number of very interesting aspects, which are summarized below.

"... we also once had, this is quite interesting, a student initiative...XX was its exact name....They wanted to organize an event specifically for women. The students rejected it. So they said there was no difference ... between men and women as far as the approach was concerned and they didn't really see the point." (11)

"..., no. Well, there were some thoughts and we had also written a proposal. We wanted to create a Female Entrepreneurship Academy, especially for women. We were banned from doing this because our Equal Opportunities Officer and our Vice President for Human Resources said that they didn't want to make this distinction. They want us to develop open formats that everyone can use."(9)

"We did this for a while because we also noticed that there were fewer women at our lectures and events and thought that perhaps there really was a lack of specialized offerings. We also got together with the federal initiative "Women in Business" to really get to know female entrepreneurs from the region who have founded companies. There was only moderate interest and we also received feedback from the students that they didn't really want them to be singled out in this way."(12)

In some cases, the topic of promoting women is linked to other institutions or embedded in an overarching construct, as in the following examples:

"The university only focuses on XX and doesn't offer any extra formats for women because that's just what our university does." (11)

"Well, we have a project at the university called XXX, which doesn't just deal with start-up support, but basically with the cultural approach to it." (21)

"There is no direct offer for this at our university. There are different professorships within the university that have different formats for promoting women, perhaps also in the STEM fields. We- as the Entrepreneurship Center - support them by helping to design workshops or offering workshops. But we don't develop a program ourselves where we differentiate according to gender."(17)

Other universities work in internal networks - several departments deal with the topic, not just the start-up centers. Through the interaction of different stakeholders at the university, the topic is given a higher profile, sustainability and a variety of perspectives:

"Yes, it's still in its infancy. Of course, we basically have the problem that we have relatively few women here, so we really don't have many. But things have changed a bit in recent years. We have a female professor who organizes XXX, a conference, every year. We have an initiative at the university that generally looks after female students and they now do a lot with us. They invite us every now and then." (15)

So they've brought the topic of start-ups into the fold and there's a lot of interaction, but it's really still in its infancy, unfortunately. But the numbers of female founders are increasing."(15)

"But still: we have Girls Day here, we do a lot more STEM subjects for female pupils or potential students. So I think you can do that. We have a basis to build on. It's probably another resource problem." (15)



In addition to analyzing the quantity of start-up support activities for women, findings were generated on the characteristics and content of start-up support at the best German universities. Some universities have a wide range of programs specifically for women:

"Yes, we have two initiatives that are very dedicated to the advancement of women. One is "Initiative 1" and the other is "Initiative 2". "Initiative 1" is an initiative by female students and academic staff. It's generally about setting up support, mentoring, mutual coaching for women and where a great many female entrepreneurs are active and pass on their knowledge and experience. And then we also have "Initiative 2", which is specifically about encouraging women to set up more start-ups and where coaches, women coaches, also accompany women in the start-up process, so to speak. So, these are two activities that are super important to us. That's why I say we are completely open, very, very international and also have a team from Denmark. We also have two initiatives that focus specifically on different gender identities." (15)

"We have XXX workshops, for example. We've already had guest lectures at university-wide events where the focus was specifically on women. Yes, so the focus was on women's self-discovery. But actually, it's integrated into the XXX workshop and otherwise. At the XXX workshop, for example, we had a very strong female professor speaking as a leading role model. And that had a very strong effect on the students, the audience." (23)

The feedback was also very good. We also repeatedly highlighted our female founder role models in the PR articles, for example, i.e. female founders as role models. That is a very powerful tool." (23)

Some universities even have professorships for "female entrepreneurship", which gives the topic even more impact:

" We have a junior professor for female entrepreneurship who also offered teaching-related courses. Otherwise, our courses are always open to all gender identities." (22)

Other universities, on the other hand, do have events for women, but to a much lesser extent:

"Yes, as part of our events, i.e. start-up advice, we don't now say we have the consultation hour here for female founders or people who assign themselves to the female gender, not that. But what we do have is that we explicitly offer a Female Founders Talk twice a year." (14)

Alternatives to an offer explicitly for women include the increased involvement of women in the formats offered or offers that specifically take women into account, but are aimed at all genders and in particular take gender-appropriate language into account:

"And what went down better was actually getting women more involved in our formats. After all, at least half of our Entrepreneurship Center team is made up of women. The proportion was even higher in 2017. In other words, we were very, very well represented and many of our workshops were run by women."(13)

"In most cases, we still openly implement the topics that we think specifically appeal to women, simply because of the third gender. We have also already implemented women's programs. For example, we have a small series called "Language for success", which deals with language, also gender-specific communication and/or voice use. But as a rule, we try to offer an open program. So when we start an offer, such as "Reconciling family and self-employment", where you might think that this is a specifically female topic, then just as many or sometimes even more men usually come. Ultimately, women benefit more when men take on this challenge for themselves than if we had self-employed men who assume that a woman sits at home and pulls the strings in the background so that the man can be successful." (10)

"Everything we do is actually more than targeted at unusual suspects. Yes, and for example just small things, that we use a completely different language than in this testosterone (male) startup culture. Yes, we simply take a much more qualitative perspective. Also not so technology - deterministic and because we have a very targeted diversity management. We are unusual suspects (not the usual ones)."(16)

Some of the universities' experiences with programs that specifically support women in start-up processes are listed below.

"We once organized an event XX and invited female founders to present their business models and students, especially female students. Yes, simply to encourage them to say where there might be difficulties, partly in terms of compatibility, also with family planning. How can this be countered and how did I still manage it? We tried it out. Compared to other formats, it wasn't really that well attended. We then did two or three other formats. We addressed them specifically to potential female founders. We actually discontinued them after these tests. (13)

"We also did -event XX- formats where only female founders were invited; perhaps also female founders who only made it after the second attempt. But we no longer advertised it so specifically. So our experience was similar to the topic of XX Entrepreneurship: it always excludes a group of participants to some extent, but we have not had any good experiences with these formats that are explicitly marketed for women. That doesn't mean that we don't continue to push and strengthen it, but rather through action and not through communication." (13)

"And then, as part of Diversity Week, which was organized on our campus, we also discussed the topic of female entrepreneurship. We invited a female entrepreneur who relatively quickly scaled up a successful business model for herself and is now still very successful. Our experience with this is that, on the one hand, such talks do attract a certain amount of interest. Sometimes even with one or two men in the audience, which is of course nice. Nevertheless, it quickly feels like a small event bubble. And on the other hand, you could of course argue that this is exactly what we need. We are in a safe space where we can talk openly and also talk about topics that only affect female founders, such as childcare. And that sets my alarm bells ringing again, because in an equal world, that would be a topic that I would also like to hear from a male founder. So I actually find that very difficult.(14)

"There are events that are aimed directly at women and where we offer a protected space where only women can take part. These events are called Female Entrepreneurship or something similar. And only women take part in them. That has happened. So our experience is that we offer this again and again and see how it is received, whether there is a need. So far, there has always been a need. But it's not as if I'm saying that 50% of the events are held for this purpose. So it is accepted and we also get feedback that it is quite good if you can only talk from woman to woman, because the advisors are still women in the end. But I would say that there is not a huge demand for it. Especially because we also address these topics in the mixed events and these events are always structured in such a way that we work together in working groups, where you can also organize it in such a way that you are just among women. And there's always a one-to-one feedback session at the events, six-to-one, where topics can be addressed that you didn't want to say in the group. So there is always room in all events to address gender-specific or individual issues, and also in a protected space. We have had good experiences because there are events where a women's team has come together. And a network emerged from this and they then went through these further processes together. They held an event, so to speak, found each other, got to know each other, then decided to pursue their start-up project in a very concrete way, took a semester off for this time and prepared their start-up together in this group of women, so to speak, and supported each other with our help, but also with very individual exchanges with each other, and then each individually pushed ahead with their own start-up project

and also founded it, but remained connected as a network. So for me that is a success. But I can't say that if we start a group like this every time, it will lead to it happening again. There is also a momentum of its own. So the experiences are good, we would offer it again and again, but not exclusively." (24)

Overall, "Female Founders Meetings" were mentioned as a very popular and well-received format in which women are invited to network meetings as role models and then speak about their experiences to mostly (but not exclusively) female people interested in founding a company.

"And now, for example, we also have an event ... with Female Founders, where we have said: Yes, men can come in too.... Or a Female Breakfast, with women...where you have a high proportion of women in particular. And that is actually very well received. And it's actually also important." (14)

Opening up the offer to all genders was seen as effective in supporting women in start-up processes, whereby more women are involved in the events and the special needs of women are taken into account without explicitly offering these only for women. For example, advice is offered by women without being exclusively accessible to women. It was also stated that the problem of the low proportion of women has its origins in the low proportion of women in start-up-related degree programs, primarily in the STEM field (Ladwig & Wohlert, 2023).

In addition, further findings on the support of women in start-up processes were collected. It was sometimes mentioned that women interested in starting a business are interested in receiving advice from women.

"Of course we have a lot of women in our Entrepreneurship Center team. Of the 15 people in our team, two thirds are women, who also provide advice and run the events, and who of course also see many things from a woman's perspective. It may well be that a woman feels better supported by a woman giving advice" (11)

With regard to gender-related differences and challenges, it was stated that it is more difficult for women to obtain financial resources than for men.

"But then, when it comes to money, it becomes problematic because they are women. So then it's still the white men who are engineers who get the money and not the women." (16)

The conception of formats against discrimination of women in the workplace was also provided as a suggestion.

"And what I would really like to see as an event would be a women-only safe space on the topic of sexual misconduct, i.e. sexualized discrimination in the workplace. I had a very frightening conversation with a young female computer scientist who told me two or three sayings that she had encountered during her internships, where my jaw really dropped, where I really thought, wow, in what century are we in?! And to create a workshop format specifically for this, a framework in which the young women learn that this is unacceptable behaviour and that there are ways and methods to tackle it. But that has less to do with the start-ups themselves. It's more about how we can reshape the sometimes toxic environment for women so that it becomes more supportive and that there is equality, equal opportunities. Exactly. So it's a difficult topic." (14)

It is also interesting to note that the proportion of women among those providing start-up support is very high:

"Whereby, if I may add something else - what is interesting is that all start-up support in many universities, not just ours, is almost 90-100% female. So the colleague we are hiring now is the first male advisor in our team." (15)

## CONCLUSIONS

In order to be able to further adapt and develop the offer of start-up support at German universities to the special needs of women, it is consequently recommended to evaluate the effectiveness of existing programs for the support of women in start-up processes.

In addition to the orientation of support activities, it is also necessary to create suitable framework conditions for women's start-up projects. This implies not only suitable childcare but also access to the necessary capital.

The selected sample of German startup-supporting universities with the implicit experiences enables a comprehensive and practice-oriented insight into startup support at universities. The results of the analysis show that university-specific factors, such as the focus of the universities' studies, also have an influence on the basic proportion of female students and thus also on the proportion of female entrepreneurs from the universities. Although only a few universities have special offers to support women in the start-up process, it is positive to note that universities in Germany are highly sensitized to women's start-up topics and needs.

The very controversial discussion about programs and offers specifically for women shows how differentiated this topic is viewed today. In our opinion - and in order to do justice to all gender identities - it makes sense in future to develop very individually tailored offers with very different formats (workshops, lectures, talks, projects, one-to-one meetings, mentoring, network events with role model speakers etc.). In a holistic approach, the Entrepreneurship Centers can offer different formats side by side in a modular structure: Being able to discuss more personal topics in a protected space, such as balancing start-up and family life, and being able to articulate doubts and fears. Finding each other as a start-up team through intensive group activities and discussions. To feel like a long-term member of a start-up network that supports and accompanies each other. To receive appreciative support and guidance from professional Startup Coaches. And arousing interest and enthusiasm for entrepreneurship at a young age with a low-threshold introduction seems to us to be a promising approach. At our university, we have integrated the teaching of pure start-up knowledge into a first step start-up wiki, where interested parties can first surf freely to get their initial questions answered and then go into the one-to-one advisory sessions prepared and with specific questions.

One approach for further research could be to ask students of all gender identities at the different universities about their wishes, ideas and needs for support and to compare these results with the findings of the present study.

The gender gap in entrepreneurship continues to exist. The worsening of the situation of women in start-ups during the Corona pandemic (Herold et al. 2022) provides the necessary impulse for reflecting on the support for women from Entrepreneurship Centers at German universities. This research paper makes a contribution on relevant influencing factors to support women in start-up processes in Germany.

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**EXPLORE THE INFLUENCE OF DIGITAL MARKETING IN THE  
ENVIRONMENTAL REVERSE SOCIALIZATION OF THE FAMILY; A  
COMPARATIVE STUDY BETWEEN GREECE AND GERMANY**

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**ABSTRACT**

The present study places digital marketing activities under the microscope in order to identify the field's contribution to children's environmental awareness. The research aims to reveal the prominence of children's environmental reverse socialization in the family. Following a data collection process through 17 interviews and 50 open-ended questionnaires with parents from Greece and Germany, the researchers analyze the qualitative data through Thematic Analysis. The research reveals that digital marketing channels, such as YouTube ads and influencer marketing, play a weak role in children's environmental awareness although children in both countries spend an increasing amount of time on digital channels. Interestingly, due to adjunctive sources, children are active contributors to the promotion of an eco-friendly mentality in the family through environmental reverse socialization and positive peer power. The study depicts the current contribution of digital marketing to children's environmental awareness, which constantly changes and requires frequent observation. Future research should utilize a wider sample and should reevaluate the findings for possible alterations. Moreover, as the research focused on Greece and Germany, it is recommended that future research will examine different and multiple European countries. The paper innovatively interrelates the contribution of digital media with the influence of children between 7-13 years old on their parents' environmental awareness. The results can provoke requisite developments to digital marketing activities towards children in accordance with the global sustainable awakening.

*Keywords: Environmental Reverse Socialization, Children's Environmental Awareness, Positive Peer Power, Digital Marketing channels, Social Marketing, Influencer marketing, YouTube Ads, Qualitative Research, Southeast and Northern Europe*



## INTRODUCTION

In the light of a sustainable world with a growing health awareness, children should be introduced to a pro-environmental mentality from an early age. Parents constitute the primary source of environmental education, as they are responsible for instilling a pro-environmental mindset in their children. However, children's increasing interest in online sources renders digital media a secondary source of information, as young consumers are constantly enhancing their knowledge of environmental issues. The field of digital marketing attempts to lead the 'consumers of the future' towards healthier consuming patterns, through healthy food advertising and the reduction of food waste (FW) (Sutinen and Närvänen, 2021). Thus, the first research objective is to discover the contribution of digital marketing channels to the environmental socialization of children in Greece and Germany. The selection of these countries was based on their divergence with regards to environmental practices, such as the solid waste management system (Andreasi Bassi, Christensen and Damgaard, 2017). The promotion of pro-environmental practices, allow children to acquire the role of the 'educator' and lead their parents to sustainability through the process of environmental reverse socialization (Hosany, Hosany and He, 2022). However, there is scarce evidence that children's efforts are adequate to effectively influence parents and create a positive change in the family. Hence, the study will, also, explore the impact of environmental reverse socialization on the acquisition of ecological behaviors in Greek and German families. It seems that reverse socialization affects only the parents' knowledge rather than their behavior, whereas more gnawing strategies, such as positive pester power, have been proved to pull the family in a healthier consumption pattern and sustainable behavior (O'Neill and Buckley, 2019). Therefore, the third research objective will be to uncover children's overall participation in the formulation of environmental behavior in the family through positive pester power. These objectives will provide an insight into the contribution of digital marketing tools to children's environmental awareness in two European countries and into the extent to which children utilize environmental reverse socialization and positive pester power in order to raise environmental awareness in the family. The outcome will underline the effectiveness of children's persuasive techniques and will direct digital marketing activities to fortify children's conservationism.

## RELEVANT LITERATURE

### Socialization and environmental socialization

Focusing on the way children assimilate healthy consumption, it is exigent to examine their primary source of education, namely their parents. The process where children develop their consuming behavior imitating their parents' example is known as socialization (John, 1999 as cited in Gentina and

Muratore, 2012). Environmental socialization describes children's acquisition of pro-environmental behaviors and knowledge either from their parents or the media (Gentina and Muratore, 2012). Taking into consideration the increasing rate of childhood obesity in Europe (Spinelli et al., 2021) and the excessive amount of food waste (Savelli, Francioni and Curina, 2019), it would be salutary to evaluate the contribution of media to children's socialization (John, 1999 as cited in Gentina and Muratore, 2012; Hosany, Hosany and He, 2022). Similarly, according to Junsheng et al. (2019), the role of mass media in raising environmental awareness should be examined, while Närvänen et al. (2018) stresses the importance of researching the impact of social marketing on consumer behavior.

#### Digital media as a source of children's environmental socialization

The rise of digital media tends to replace the traditional marketing tools as a means of communication with younger audiences. Children today are considered "digital natives", which highlights the significance of digital media in their development. According to findings of Moschis & Moore, children's exposure to media and advertising have an influence on their knowledge and consumer skills (1978; 1979; 1982; 1983; 1985 as cited in Hosany, Hosany and He, 2022). However, based on the recent literature, there is no evidence that "green" advertising or online marketing stimuli result in the adoption of pro-environmental behavior from children and thus, further research is suggested to identify the influence of socialization agents on children's environmental behavior (Hosany, Hosany and He, 2022). Consistent with Haddock et al. (2022), most children consider watching Youtube videos as their favorite digital activity. However, there are few studies that investigate how platforms, like YouTube, raise environmental awareness (Gómez-Casillas and Victoria Gómez Márquez, 2023). Apart from their popularity, researchers have examined their exerted influence of these platforms on children and the reason behind it. The majority of videos young children watch on Youtube includes content from their favorite influencers (Hosany, Hosany and He, 2022). It has been proved that children tend to widely trust advertising messages produced by a familiar and relatable source (De Jans and Hudders, 2020 cited in Holiday and Brinson, 2022). Thus, scholars have stressed the importance of a future investigation in order to clarify the way influencer marketing can help children adopt a healthier lifestyle (De Jans et al., 2021) and to showcase a positive relation between influencer marketing and children's sustainable behavior and reverse socialization (Hosany, Hosany and He, 2022). Finally, the time children spend online daily can reach up to an hour and a half, which increases with age (Rideout et al., 2021 as cited in Haddock et al. 2022). As expected, children's screen time depends on parental guidance and as the research compares the situation in two European countries, we may observe a divergence of parental forbearance about screen time.

#### Environmental reverse socialization and positive pester power

Based on the existing literature, the family, the school and the mass media constitute the basic sources of children's environmental socialization (Aguirre Bielschowsky et al., 2018; Grønhøj, 2007; Matthies et al., 2012 as cited in Schill, Muratore and Hogg, 2022). Apparently, there is pervading information available in all online channels, facilitating the process known as reverse socialization, which describes the inverted impartation of knowledge from children to the family (Ward, 1974 as cited in Singh et al., 2020; Liu, Chen and Dang, 2022). Moreover, children can educate parents about ecological practices through the process of environmental reverse socialization (Easterling, et al., 1995 as cited in Hosany, Hosany and He, 2022; O'Neill and Buckley, 2019). Digital media also enhance children's awareness with the promotion of air and water pollution, soil erosion and marine life extinction (Hanifah Mahat et al., 2023). Also, former studies have suggested future research on the amount of influence children exert on family's healthier consumption (Betrol et al. 2017), while others highlighted the limited academic literature regarding the extent to which children are involved in environmental issues (O'Neill and Buckley, 2019; Singh et al., 2022).

There are two types of influential strategies that children can employ, namely the bilateral strategies which resemble a dialogue and the unilateral, which involve direct request and stubborn persuasion (Offermann & Schrier, 1985; Bao et al., 2007 as cited in Singh et al., 2020). Through reverse socialization children had an impact only on parents' knowledge, whereas through more persuasive strategies, such as positive pester power, they effectively achieved behavioral change (O'Neill and Buckley, 2019). However, further research is needed to confirm the catalytic role of positive pester power in raising environmental awareness (O'Neill and Buckley, 2019; Swindle et al., 2020), despite having examples of positive pester power about sustainable consumption (Ritch and Brownlie, 2016). Finally, it has been highlighted rather repetitively that parents' receptiveness to environmental reverse socialization depends on many factors, such as their prior environmental knowledge, as well as the reliability of the source that children consult (Bartiaux, 2009 as cited in Walker, 2016). Focusing on two European countries, the study will clarify the way Greek and German parents adapt to the environmental reverse socialization.

## **METHODOLOGY**

Interpretivism was considered the most suitable research philosophy to follow in order to explore these newly emerging phenomena and attempt to explain the forces that shape them (Kapoulas & Mitic, 2012) in the present comparative research.

### **Data collection**

Semi-structured interviews were conducted to explore the objectives, as they constitute the most frequent and popular technique in qualitative research, as it is versatile (Kallio et al., 2016). The interview consisted of 12 questions and the answers of the respondent were pseudonymised as Σ1,

Σ2..Σ17 in order to secure their anonymity. Aiming at triangulating the interview results, 25 open-ended questionnaires were equally distributed to parents in each country. The questionnaires included the same 12 questions and the respondents were pseudonymized as M1, M2.. M50.

### Sample

The sample of the study was purposeful and consisted of millennial parents (28-46 years old) with children between 7-13 years old. Given that children could not participate in the interview, the researcher interviewed 9 parents from Greece and 8 parents from Germany, in order to gain an insight into children's point of view. Study findings have illustrated that children (7-12 years old) participate actively in recycling and can foster change to their micro-environment (Schill, Godefroit-Winkel and Hogg, 2020).

### Data analysis

The data collected were analyzed through Thematic analysis, which is a widely used qualitative analytical method (Braun and Clarke 2006). Considering the comparative nature of this study, thematic analysis facilitated the effective identification of the most important similarities and differences between the two countries.

### Ethical procedures

Prior to the data collection, the researcher obtained an Ethics approval from CITY college University of York Europe Campus.

## FINDINGS

The researchers have followed a six-step process of Thematic analysis. Based on data, 56 codes were created and categorized in themes, which were then identified and the research moved to a detailed analysis, in order to showcase their importance and internal construction.

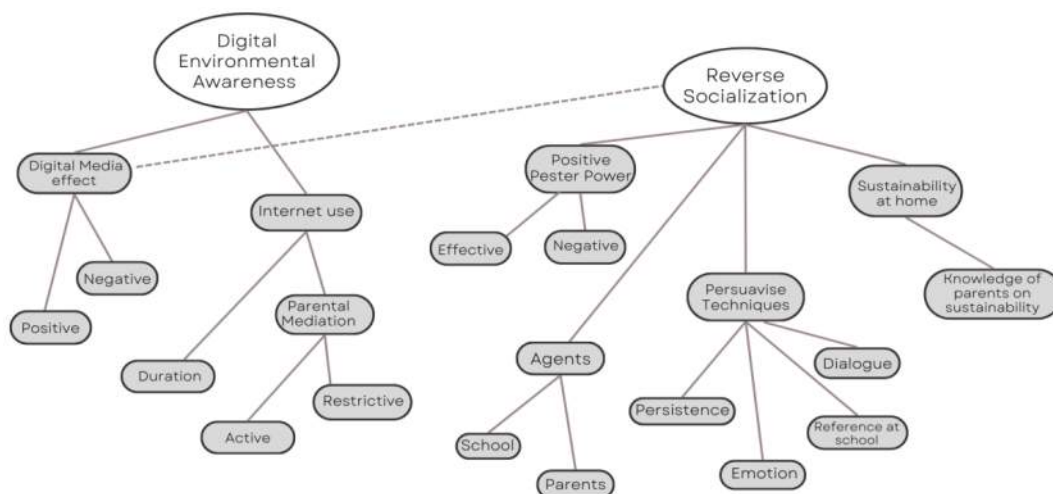


Figure 1. Final thematic map

As discussed by scholars, various online marketing tools, such as influencer marketing and Youtube, can facilitate the promotion of sustainable and healthy practices (Samoggia, Bertazzoli and Ruggeri, 2019; Makhal et al., 2020; Hosany, Hosany and He 2022). Firstly, our findings verify the existing literature claiming that watching videos on Youtube is considered the most preferred digital activity for children (Haddock et al. 2022):  $\Sigma 8$ : [...] link on YouTube [...] M15: Yes, they watch videos on Youtube [...] The majority of parents referred to YouTube as their children's preferred platform. However, as digital marketing tools are rallied for a pro-environmental cause, scholars pursue the role of social platforms in children's environmental awareness (Junsheng et al., 2019; Gómez-Casillas and Victoria Gómez Márquez, 2023). Parents mentioned examples of YouTube advertisements where the environmental messages were clear and children were introduced or reminded about sustainable practices:

M31: 'No trash, no plastic in the sea and on the beach' (Greek advertisement)

M35: To paper recycling. She is influenced by advertisements on YouTube [...]

However, many parents referred to the negative influence of online ads on children, such as consumerism:

$\Sigma 17$ : [...] usually on YouTube there are these kids and she says 'I saw that and I want to buy it' [...]

M45: "[...] If an Influencer advertises a new product, my child has to buy it immediately."

According to  $\Sigma 17$ , child-influencers are a very successful subcategory of influencers, who engage in child-orientated activities and are watched by millions of children (De Veirman, Hudders and Nelson, 2019). However, a decisive factor for the influence of digital media on children is the amount of screen time. There is no sufficient divergence between Greece and Germany with regards to the duration of children's internet usage, as most parents mentioned a duration of 2-3 hours per day. However, an exception was a small group of almost only German parents, who answered that their children spend up to 5 hours per day online. Findings indicate that Greek parents maintain a stricter profile towards the use of digital media and try to divert their children with other activities, whereas most German parents have incorporated it into their daily routine and allow an extended use. Moving on, the research indicates that influencer marketing is one of the two digital marketing tools that presented a prominent influence on children's environmental awareness:  $\Sigma 16$ : "[...] because an influencer said it or showed it..[...] it is the motto nowadays to be eco-friendly etc [...] last year an influencer promoted afforestation and my child asked me about the afforestation on burned grounds." Therefore, this point supports the view of Hosany, Hosany and He (2022), where the effectiveness of influencer marketing on children's sustainable behavior is stressed. Also, building on the suggestion of De Jans et al. (2021) for further evidence about the participation of influencer marketing to the promotion of a healthier lifestyle for children, the example above shows that influencer marketing can

instill pro-environmental messages in children, but influencers do not often promote such practices. Moving on, multiple responses of parents stressed their children's environmental reverse socialization, which led to radical changes in the house, such as garbage separation, energy preservation etc. However, given that the school's and parents' disposition to environmental teachings also constitute factors that reinforce children's sustainable behavior, researchers should confirm the leading role of influencer marketing in environmental reverse socialization (Hosany, Hosany and He, 2022). Sadly, 46 out of 67 parents stated that there was no evidence of environmental messages on digital marketing channels. Hence, the connection between influencer marketing and environmental reverse socialization is imponent, while the other two factors seem to play a more decisive role. Furthermore, contrary to the assumptions of Makhal et al. (2020), that influencer marketing can be used for the promotion of suboptimal food (SOF), the research data do not showcase any evidence of food advertising to children online, due to many restrictions (Fleming-Milici, Phaneuf and Harris, 2023), which may prohibit the promotion of unhealthy food advertising, but impede positive messages from coming across.

In this comparative study, the contribution of digital marketing channels on children's environmental awareness and reverse socialization is the same in both countries. Both Greek and German parents highlighted the urgency for adequate pro-environmental messages on digital marketing channels. However, regarding the aspects involved in environmental reverse socialization, there are some differences between the two countries. According to existing literature, the family, the school and the mass media constitute the basic sources of children's environmental socialization (Aguirre Bielschowsky et al., 2018; Matthies et al., 2012 as cited in Schill, Muratore and Hogg, 2022). The research data verify the credibility of this statement, as there is evidence that children acquire knowledge from all these sources. At first, it is very clear that children in both countries are energetically involved in the promotion of a pro-environmental mentality: M16: [...] she reminds us about the rational use of water almost every time! M31: " I have to be careful about water consumption, not to waste it."

Their persistence and commitment contribute to the success of the process. Former research has suggested the exploration of the extent to which children influence the family's healthier consumption (Betrol et al., 2017) and the study shows that alongside diverse ecological habits, children have suggested alterations to the family's eating habits, such as the reduction of meat-based food, the avoidance of products with extra packaging or products from mass-production. In addition, the parent's responses agree with former study findings which claimed that children participate in recycling and can modify their micro-environment (Schill, Godefroit-Winkel and Hogg, 2020). However, opposite to O'Neill and Buckley (2019) who stated that reverse socialization enhances only

the gnostic capabilities of parents, the responses indicated that parents do change their habits following the example of their children:  $\Sigma 12$ : [...] he told me 'Mum, you know that we are not supposed to throw batteries alongside the rest of the garbage [...]...Honestly since then I will not throw even one battery in the garbage [...] M42: "Children become an example for their parents. For example, turning the light off everytime I walk out of the room."

This divergence between the research data and the existing literature indicates that children's environmental reverse socialization may become more effective. Furthermore, throughout the thematic analysis we have identified some differences between the two European countries. German parents stressed that as children learn about recycling and garbage separation from a very young age, it is natural for them to imitate and promote such behaviors, compared to Greece. They also commented that a prominent difference between the two counties is that in Germany recycling is obligatory, whereas in Greece there is no such legislation. Equally, the contribution of the school to the overall environmental awareness of children was evidently different between the two countries. Multiple references to school facilities, such as a compost machine and food waste management highlighted the participation of German schools in raising awareness, whereas in Greek schools the education about sustainable practices, though sufficient, is only theoretical. Apparently, children from both countries are actively involved in environmental reverse socialization and parents in both countries followed their recommendations, regardless of their prior knowledge. However, there was a small group of respondents, who did not deem their child's ecological suggestions as influential, because their environmental knowledge was at the same level. Therefore, the argument of Bartiaux (2009) is merely confirmed, as the parent's prior environmental knowledge was partially interfering in their receptiveness of environmental reverse socialization.

Moving on, a factor that can influence a parent's receptiveness of any pro-environmental suggestion, is the child's persuasive technique. In the research data, parents referred to persuasive attempts through dialogue and reasonable argumentation, as well as through positive pester power, which was suggested for further investigation (Swindle et al., 2020):  $\Sigma 1$ : ..they drive me crazy...[...] 'Mum, don't throw anything there..Mum don't do that'..constantly, they are like teachers.  $\Sigma 3$ : [...] she doesn't use nagging, but mostly yelling, she insists [...] and it is effective even by force [...] because her dad doesn't do them very often [...] she says 'Dad this is for recycling', 'Dad the water is still running!' Considering these examples, the point of O'Neill and Buckley (2019) about the positive influence of pester power on parental environmental behavior is confirmed. Regarding the knowledge of parents, which was discussed above, the respondent  $\Sigma 3$  highlights that the child yells at her dad in order to convince him about the importance of sustainable practices. Understandably, we can assume that children utilize pester power when the parents' involvement in eco-friendly practices is weak. Overall, the fact that

the effect of positive pester power is validated by many parents contributes to the existing literature regarding the subject. Lastly, environmental reverse socialization and positive pester power are interdependent, albeit different, and constitute children's "supplies" towards a sustainable future.

## CONCLUSION

The study provides many insights for the influence of digital marketing channels in children's environmental awareness. Having confirmed that YouTube is the most preferable online platform, the research shows only adult influencers in the promotion of an eco-friendly 'motto', which disagrees with the existing literature about young influencers. Furthermore, the research reveals that children acquire information about sustainability through social marketing activities and transfer it to the family through reverse socialization, though it underlines the urgency for more pro-environmental digital marketing activities. The research data clearly shows that children, both in Greece and Germany, actively influence their parents towards the adoption of eco-friendly behaviors and they utilize both environmental reverse socialization and positive pester power. Although children in both countries play a vital role in the promotion of sustainability, in Germany there is a positive contribution of the school and society compared to Greece.

Overall, the research data benefits both the theoretical and the practical field. To begin with, the evidence of children's suggestions about healthy alternatives to the family's consumption patterns, enhance the existing literature about the influential role of children over parents, while it leads marketers towards healthy food advertising to children, in order to achieve sales. Also, the energetic involvement of children in pro-environmental awareness enriches the literature by proving the prominent existence of environmental reverse socialization in both European countries and highlights that marketers should utilize children's influence on parents. Furthermore, the data proved that although YouTube advertisements and influencer marketing promote pro-environmental practices, there is room for improvement. Theoretically, this contributes to the literature exploring the role of digital mass media in raising environmental awareness, while practically suggesting that marketers should rapidly increase the digital marketing messages on sustainability and the use of Influencers for the promotion of environmental practices. Regarding the impact of social marketing on consumer behavior, the study proves that social marketing reinforces healthy buying behavior to children and constitutes an effective marketing tool. Lastly, the powerful effect of positive pester power on parents' sustainable behavior confirms its role in the promotion of sustainability and stresses the need for more pro-environmental advertising messages to children.

The limitations of a study can function as the stimulation for further investigation on the topic. Although the sample is limited to only 67 respondents, it allowed the researchers to delve deeper into the parents' point of view in both countries and have a clearer glimpse of the phenomena investigated



and the forces that shape them. Understandably, the research outcome cannot be generalized. Hence, future research should focus on different or wider areas in order to complement the existing data. Moreover, as the research explored the influence of digital marketing activities on children from 7-13 years old, future researchers should investigate the influence of such channels on older children's environmental awareness. Lastly, given that digital marketing practices are constantly changing, future research should reevaluate the situation after a period of time, for the same or a similar subject, to ascertain any changes to digital media practices.

## IMPLICATIONS

Social marketing has been characterized as one of the main paths through which the field of marketing can actualize social change (Russell-Bennett et al., 2019). Based on the study, social marketing has a positive effect on consumption accompanied with the managerial implication that it can harm the sales of unsustainable products. The rejection of specific products and brands due to generic or specific reasons, is described with the term 'Anticonsumption' (Cherrier, Black and Lee, 2011). As the recent anticonsumption theorization places environmental sustainability at the center (Dalmoro, Matos and Barcellos, 2019), it can create multiple managerial implications as children may prevent their parents from buying multiple unsustainable products. Moreover, although marketers may utilize YouTube and Influencers to lead children towards the consumption of sustainable products, there are also implications that may not be avoided. YouTube ads prior to videos can be ignored from children (skipped) and the influencer may not comply effectively with the respective brand, in order to create engagement and to initiate sales. Finally, although Influencer marketing presents a prominent influence on children's environmental awareness, its connection to children's environmental reverse socialization is still imponent. Thus, marketers may consider that additional agents, such as the school, are directly connected with the environmental reverse socialization of children and hence, more effective.

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## ASSESSING THE BENEFITS OF A BLOCKCHAIN-BASED WINE SUPPLY NETWORK TO COMBAT WINE FRAUD

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### ABSTRACT

Food fraud is a growing economic problem. Cases are on the rise, particularly affecting wine and olive oil. One potential reason for this increase is the increasing complexity of supply chains, which complicates fraud detection and prevention. This study investigates the economic benefits of blockchain-based anti-counterfeiting solutions in the wine supply chain and comparing them to traditional methods. Utilizing an integrative literature review and a cost-benefit analysis, the research highlights that while blockchain technology offers long-term benefits like enhanced transparency, market trust, and brand loyalty, it requires higher initial investment and ongoing costs. Traditional solutions, though simpler and less costly initially, fall short in achieving the same level of anti-counterfeiting efficiency and supply chain transparency. This study enhances the understanding of anti-counterfeiting strategies in the wine industry. For managers the cost-benefit framework can guide them to plan effective measures that ensures product authenticity and integrity.

*Keywords: wine fraud, cost-benefit analysis, supply chain, blockchain, wine industry*

### INTRODUCTION

The economic impact of wine counterfeiting is a serious issue affecting both the wine industry and consumers. While the exact scale of wine fraud remains unknown, numerous articles, both for general audiences and scientific communities, have cited that up to 20% of wines may be counterfeited (Anson, 2022). However, the sources of these estimates remain unclear. The problem of wine counterfeiting stretches back centuries, with methods ranging from simple quality improvement measures to sophisticated counterfeiting. Modern wine fraud can include diluting wine, marketing cheap red wine as luxury products, and includes prominent cases such as that of Rudy Kurniawan, who forged a significant number of wines (Gibb, 2023). Beyond the economic impact, these fraudulent activities pose health and safety risks to consumers, can damage the reputation of producers and wine-growing regions, and can even have negative environmental impacts.

Consumers nowadays require information about the origin, quality, and supply chain journey of the products they consume (Saitone and Sexton, 2017). Central to this issue is the concept of trust in supply chains, essential in an industry where authenticity and provenance are critical and trust builds on the competence, honesty, and reliability of stakeholders (Sahay, 2003). Trust is built over time between producers and consumers and is essential for maintaining the value and reputation of wine (Psychogiou and Tsouflias, 2024). Fraudulent activities undermine this trust, causing significant economic and reputational damage. For producers, retailers, and consumers, ensuring the authenticity of wine is of high importance for maintaining trust in the wine industry.

In response to these challenges, various technologies have been developed to combat wine fraud, aiming to ensure the authenticity and integrity of wine products. In the field of information technology, innovative solutions such as blockchain and zero-knowledge proof (ZKP) surface as promising solutions for wine authentication. Blockchain emerges as a reliable technology to combat counterfeiting in the wine industry. By providing a decentralized and immutable ledger, blockchain ensures that every transaction related to a bottle of wine is transparently recorded and cannot be changed. This transparency creates a trustworthy record of the path the wine takes from vineyard to consumer. With blockchain, each bottle can be tracked and verified, significantly reducing the risk of counterfeiting and increasing consumer trust. Zero-knowledge proofs (ZKP) have the potential to further enhance the blockchain solution in combating wine counterfeiting. ZKP allows one party to prove to another that a statement is true without revealing any specific details. This results in enhancing the privacy while maintaining trust and authenticity. The integration of ZKP with blockchain could provide a secure, private, and verifiable method to confirm the originality of wines.

The study is based on a theoretical framework for how blockchain technology can combat counterfeiting, drawing on the dynamic capabilities of the Resource-based view (RbV) theory. The Resource-based view of the firm is a widely recognized theory of strategic management (Barney, 1991). Dynamic capabilities build upon the RBV, highlighting that for firms to maintain competitive advantage in fast-changing markets, it's not enough to just have quality resources. They also require dynamic capabilities to incorporate, organize, and reconfigure internal and external resources to cope with swift changes in markets and technologies (Teece et al., 1997). With counterfeiting issues and a crisis of trust in the marketplace, wine companies need to improve product traceability and consumer confidence to maintain and enhance their competitive advantage.

An aspect revealed during the literature review is the significant gap in research on cost-benefit analysis related to the use of technology to combat wine fraud. As blockchain provides a new

opportunity to reconfigure traditional wine supply chain relationships the costs to implement and operate fraud-combating solutions must be taken into consideration as they can impact the decision-making process. Therefore, this study presents a cost-benefit analysis as part of a financial framework comparing blockchain-based anti-counterfeiting solutions with traditional methods. As a result, the following research question was formulated:

RQ1: How do blockchain-based solutions compare to traditional methods for combating wine fraud from an economic perspective?

The results of the study indicate that blockchain-based anti-counterfeiting solutions offer substantial long-term benefits such as enhanced transparency, increased consumer trust, and improved brand loyalty. However, these solutions require a higher initial investment and ongoing operational costs. Traditional solutions may have lower initial costs and be simpler to operate but often fall short in providing the anti-counterfeiting and supply chain transparency that blockchain can achieve.

## **LITERATURE REVIEW: COUNTERFEITING IN THE WINE INDUSTRY**

### 2.1 Overview and supporting data

The World Trade Organization defines counterfeiting as the unlawful application of a trademark to products that are identical or similar to those for which the trademark has been legally registered, intended to mislead consumers into thinking they are purchasing authentic items (WTO, 2019). The issue of counterfeiting within the wine supply chain has been a longstanding and ongoing concern for both stakeholders in the wine industry and consumers. Various forms of fraud, including the use of substandard raw materials, dilution, alteration of packaging contents, and falsification of packaging and labels, are identifiable at different points in the wine supply chain (Gayialis et al., 2022).

Unlike other commodities and luxury goods, wine is subject to rigorous regulation, primarily because of health concerns and its significant contribution to government tax revenues (Lecat et al., 2017). Despite this strict regulatory environment, the issue of counterfeit wine persists. According to a study conducted by the European Union Intellectual Property Office (EUIPO, 2019), the annual sales of wine and spirits in the European Union amounted to approximately 38 billion euros. However, the prevalence of counterfeit products leads to an estimated annual revenue loss of 1.3 billion euros, which accounts for about 3.3% of the total market. In 2020, seizures of counterfeit alcoholic beverages in Europe exceeded one million liters, rising to over 1.7 million liters in 2021, primarily wine, during operations regularly spearheaded by the European Anti-Fraud Office (OLAF) as part of the Europol-

Interpol joint OPSON operations (OLAF, 2021). Estimating the proportion of counterfeit wines is deemed highly challenging, as wines fall under the broader food and beverage sector, where data is often ambiguous. The vast diversity within the wine industry further complicates this issue, underscoring the necessity for more granular segmentation within the sector. Moreover, the counterfeiting of exportable wines frequently occurs within the producing country's borders before export, which further complicates the detection of such counterfeit products (Gayialis et al., 2022). However, some scholars have estimated that counterfeit wines may constitute approximately 20% of the global wine market. For instance, Romano et al. (2021) conducted an analysis of fraudulent activities in the Italian wine market from 2007 to 2015, estimating that such activities accounted for 25% of the market. The figure of 20% counterfeit wine is also cited in various sources, including a report by Business Insider in 2021 (Hellman, 2021). This statistic likely pertains only to the most renowned wines, rather than the entire market. A prime illustration is the case of the 1982 Lafite-Rothschild, where the quantity of bottles sold exceeded the number originally released (Lecat et al., 2017). Unlike spirits and beer, the production of wine is highly dependent on weather conditions, leading to potential scarcity. This variability in production, coupled with the presence of counterfeit wines in the market, creates a dilemma in distinguishing authentic wines from fakes. Such a disparity between supply and demand opens avenues for fraudulent activities (Lecat et al., 2017). Wine fraud and counterfeiting have long plagued the wine industry, with forgers continually devising novel methods of imitation. Producers, in response, have increasingly turned to modern technologies to combat these fraudulent practices. The growing importance of traceability in fine wines has led to evolving dynamics between producers, who are keen to ensure the authenticity of their estate wines, and consumers, who are eager to receive the exact bottles they purchased. This challenge has transformed into a marketing opportunity for wine producers (Lecat et al., 2017). The wine industry faces a significant and multifaceted challenge of counterfeiting, impacted by factors like diverse production conditions, regulatory complexities, and market demand. Despite advancements in technology and rigorous regulations, counterfeit wines continue to pose a threat to both the industry's integrity and economic viability. Despite advancements in technology and stringent regulations counterfeit wines continue to pose a threat to the integrity of the wine industry. This persistent issue highlights the need for creative tools at every stage of the supply chain, from upstream to downstream to effectively combat upstream counterfeiting.

## 2.2 Upstream and downstream counterfeiting in the wine supply chain

The wine supply chain entails various processes and collaboration between different stakeholders. Wine production involves a series of steps transforming grapes into wine, including harvesting,



crushing, fermentation, pressing, aging, and bottling. The process begins with grape harvesting and progresses through various stages to the bulk wine distributor. Beyond production, additional stakeholders engage in bottling, transportation, warehousing, and retail distribution (Tokkozhina et al., 2021). The wine supply chain currently utilizes the 'Global Standard 1' (GS1) barcode system, which requires stakeholders to provide specific information at each stage of the supply chain. This information includes vineyard details, grape variety, and contract specifics from grape growers; identification of wine producers and products, along with batch numbers; container codes for bulk distributors; product and container identification and wine quality for transit cellars; pallet codes and dispatch locations for distributors; and item numbers, lot numbers, and packaging dates for retailers (GS1, 2005).

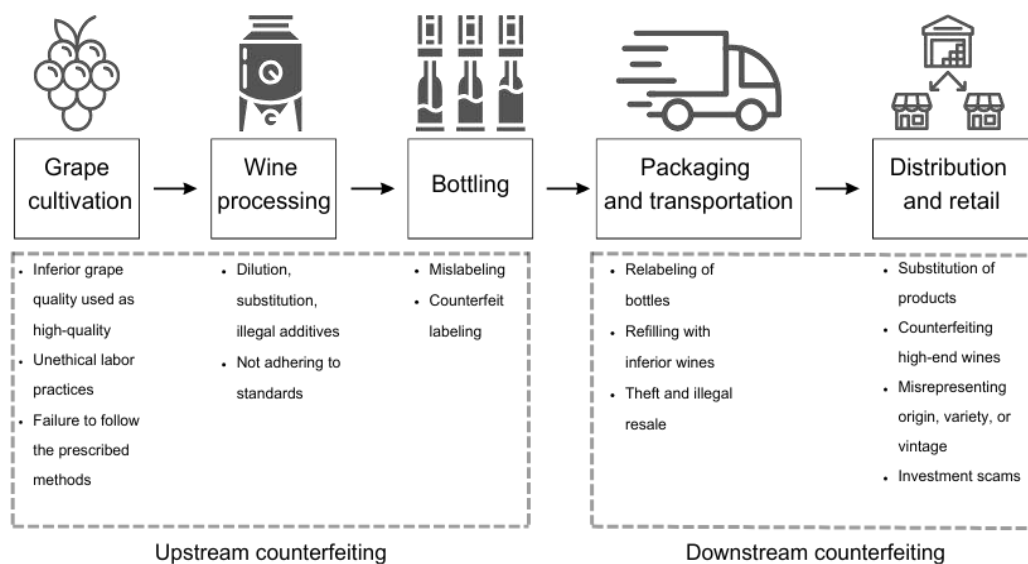


Figure 1. Wine supply chain and potential counterfeiting activities

Counterfeiting activities can originate from various segments within the supply chain. Concerning the potential for fraud, the initial three stages of the wine production process—grape cultivation, wine processing, and packaging—are considered particularly significant. The key players in these phases are the grape growers, winemakers, and bottling operators (Romano et al., 2021). For instance, grape growers might sell lower quality grapes as coming from more esteemed vineyards. During fermentation or aging, risks include dilution, substitution, or illegal additives. Bottlers might engage in mislabeling, while packers and transporters could substitute or mix wines. At the importer or distributor level, the potential for fraud extends to investment scams, counterfeiting, and further substitution of products (Lee, 2022). Common types of wine fraud in the supply chain include dilution with water or cheaper wine, substitution with inferior or artificial products, illegal additions to enhance appearance and taste, relabeling to mimic prestigious brands, misrepresenting wine's origin,

grape variety, or vintage, counterfeiting high-end wines, theft and illegal resale, and investment scams like Ponzi schemes targeting buyers (Lee, 2022).

In the context of counterfeiting, a differentiation is drawn between "upstream" and "downstream" activities. Upstream counterfeiting involves violations in sourcing and production, such as not adhering to international or national production standards or misrepresenting product characteristics, including unethical labor practices and failure to follow organic, vegan or eco-friendly methods (Danese et al., 2021). One case of upstream counterfeiting is the March 2008 "Brunellopoli" scandal, in which Brunello di Montalcino producers were accused of illegally blending other grape varieties into wines labeled as 100% Sangiovese, allegedly to increase yields and profits (VinoWire, 2008). Downstream counterfeiting takes place in distribution and retail, defined by practices such as counterfeit labeling, relabeling of bottles, or refilling with inferior wines (Danese et al., 2021). An illustration of this kind of fraud is the well-known case of Rudy Kurniawan, who was apprehended on March 8, 2012, and indicted for fraudulent activity. Kurniawan acquired a significant amount of wine from Burgundy merchants and changed the labels to make them appear as more expensive wines (Steinberger, 2012). Figure 1 illustrates the main stages in the wine supply chain and the possible fraudulent activities at each stage, distinguishing between upstream counterfeiting and downstream counterfeiting.

### 2.3 Traditional anti-counterfeiting solutions

Various technological solutions exist to prevent counterfeiting. Lecat et al. (2017) outline six anti-counterfeiting techniques. These include tamper proofing for product integrity, visible features like holograms, covert features requiring specialized detection, forensic analysis involving physical and biological markers, logistics-derived track and trace technologies, and tamper-evident procedures such as seals (Lecat et al., 2017). Regarding traditional methods of combating counterfeiting within the wine industry, Danese et al. (2021) conducted a more in-depth analysis. They have discovered three general categories that companies use to reduce product counterfeiting, depending on the applicability of addressing upstream and/or downstream counterfeiting. These categories are measures related to product and packaging, customer education and information, and measures related to processes (Danese et al., 2021).

#### Downstream Counterfeiting Measures:

- Product/Packaging-Related Measures: These are designed to enhance the complexity of replicating original products or packaging, incorporating overt technologies like holograms, watermarks, and

seals, along with covert technologies such as machine- readable inks and hidden messages (Li, 2013). Despite their sophistication, these measures have limitations, such as being unsuitable for the average consumer and requiring the involvement of certification agencies or law enforcement services in the certification process (Li, 2013). Additionally, they can be vulnerable to cloning, which may facilitate the reuse of authentic packaging for counterfeit goods (Pustjens et al., 2016), while upstream counterfeiting is difficult to prevent (Danese et al., 2021).

- Customer Information/Education-Related Measures: Aimed at empowering consumers and intermediaries with the knowledge to distinguish genuine from counterfeit products, these measures focus on the dissemination of information (Stevenson and Busby, 2015). However, their effectiveness can be limited by the end-users' ability to comprehend and apply complex information, which poses a substantial obstacle (Lybecker, 2007). And customers have no chance of knowing whether unfair practices have been identified before the product is sold (Danese et al., 2021).

#### Upstream Counterfeiting Measures:

- Process-Related Measures: On-site audits verify that production processes and product consistency meet safety and quality standards through external evaluations. These evaluations include chemical and physical assessments, as well as organoleptic evaluations. Advanced techniques, such as laser surface profiling, DNA analysis, and isotopic examination, are utilized to ensure the authenticity of the products (Berman, 2008). Such measures may not be practical for average consumers (Berman, 2008) and are constrained to sampled analyses (Pustjens et al., 2016), when a product is released onto the market, these steps are ineffective at stopping counterfeiting, therefore not providing a comprehensive safeguard against counterfeiting (Danese et al., 2021).

#### Measures Addressing Both Upstream and Downstream Counterfeiting:

- Process-Related Measures: Track-and-trace systems have gained attention for their ability to provide comprehensive data on the origin of products and their compliance with safety and quality standards, thereby ensuring their authenticity (Biswas et al., 2017). Such systems commonly utilize well-recognized smart labels, such as QR codes and barcodes, as well as advanced tagging technologies, such as NFC and RFID tags, which facilitate the retrieval of product information via smartphones (Creydt & Fischer, 2019). Although innovative, these systems face challenges. The risk of tag duplication is present, where counterfeit goods may use the same smart labels (Lo et al., 2019). Moreover, the integrity of product data can be compromised due to possible unauthorized manipulation, especially since this data is usually centralized post-data entry (Biswas et al., 2017).

Furthermore, the effectiveness of these systems relies heavily on the accuracy of the input data, which, if not carefully verified through stringent controls and processes, can lead to the dissemination of false product information (Danese et al., 2021).

Traditional anti-counterfeiting solutions have seen innovations with different stages of development. However, the effectiveness of different measures to prevent counterfeiting and the level of protection upstream and downstream in the wine supply chain remains a challenge.

#### 2.4 Blockchain-based anti-counterfeiting solutions

Combating counterfeiting is a potential application of BCT in the supply chain area. Research on and applications of BCT in different supply chain areas can be found in the literature. However, research on utilizing blockchain for preventing product counterfeiting is still in its nascent stage. Most existing studies are primarily at the initial exploratory phase or are largely anecdotal and descriptive. They often take a conceptual or purely technical approach, relying mainly on secondary data derived from isolated cases (Cole et al., 2019). There are several use cases for blockchain-based anti-counterfeiting solutions. For example, in early 2017, Alibaba and Australia Post investigated blockchain solutions to address food adulteration. Later that year, top global food and fast-moving consumer goods (FMCG) companies, such as Wal-Mart, Nestle, Dole, and Golden Food, collaborated with IBM to integrate blockchain into their supply chains, aiming to expedite the detection of supplier misconduct (Xiong et al., 2020). Since September 2017, China and the European Union have collaborated on the "EU-China-Safe" project, utilizing BCT to strengthen food safety regulation and combat food fraud. Arc-Net is a partner, creating a blockchain platform to track animal proteins at the source for improved transparency (Huang, 2017). According to the research (Cole et al., 2019), BCT has the potential to significantly reduce illegal counterfeiting by providing traceable information regarding a product's origin. This capability extends to various items such as food, pharmaceuticals, and minerals. Provenance, a UK-based startup, collaborates with companies to monitor the origins and trajectory of products, including details like production location, global movement, and storage conditions. Additionally, in a pilot project orchestrated by the World Wildlife Fund (WWF) in Australia, Fiji, and New Zealand, blockchain is utilized to document data gathered via RFID and QR code tags, managing the supply chain of tuna from ocean catch to consumer plate. However, challenges in implementing include its affordability for less affluent suppliers. Even major companies like M&S and Primark have only managed to integrate it up to the first-tier supplier level, indicating that a comprehensive deployment across the entire network presents significant obstacles (Cole et al., 2019). In the wine and spirits industry, Chai Vault is a company that provides anti-counterfeiting solutions based on BCT,

enabling buyers to verify a bottle's authenticity and provenance before purchase. This system utilizes certified authenticators globally to inspect and validate authentic bottles, subsequently recording this information such as thorough notes, photographs, and a unique identification or 'thumbprint' of each bottle during production or post-inspection on the blockchain as a permanent digital record (Chai Vault, 2020).

The literature review on counterfeiting in the wine industry highlights the extent and impact of counterfeiting, including both in the upstream and downstream realm of the supply chain. It compared traditional anti-counterfeiting methods with novel blockchain-based solutions, providing the background for a deeper analysis of these technological approaches in the next chapter.

## **METHODOLOGY**

The methodology combines an integrative literature review with a cost-benefit analysis. The integrative literature review approach was chosen as this leads to the advancement of knowledge and contributes to the literature by developing theoretical frameworks, taxonomies, or classifications. Cost-benefit analysis is a systematic analytical process for evaluating the advisability of a project or program based on a comparison of benefits and costs, and for answering questions about the value and optimal size of a proposed project and related constraints. It involves identifying and quantifying costs and benefits and assigning a monetary value to them.

## **RESULTS AND DISCUSSION**

To comprehend the economic implications of implementing BCT in the field of combating counterfeiting in the wine supply chain, based on the results of the literature analysis, the factors related to measuring the two solutions in terms of their costs and benefits are listed for comparison, and a cost and benefit framework was developed to highlight their economic impact, as shown in table 1. From a cost perspective, the initial setup costs for a blockchain-based anti-counterfeiting solution are higher compared to a tracking solution. This can be attributed to the development or implementation of blockchain infrastructure and NFC technology, regardless of whether one chooses a public or private blockchain, develops independent BCT, or seeks out providers that offer blockchain solutions. Tracking systems rely on standard technologies and processes, potentially resulting in lower initial costs. However, both systems come with ongoing operational expenses, and implementing BCT is considerably more expensive. Furthermore, the frequency and intensity of transactions have a significant impact on operational costs. Integrating blockchain into a company's

infrastructure requires substantial effort, particularly for those without preexisting digital infrastructure. Blockchain systems may result in added expenses due to transaction fees and third-party administration. Additionally, implementing blockchain, being a novel technology, may incur significant costs and a different timeline compared to traditional solutions. The application of BCT may also necessitate supplementary expenses for marketing and promotion.

In terms of benefits, BCT outperforms traditional systems because of increased transparency, and with the security provided by its immutable ledger, can be more effective than tracking systems in reducing the incidence of counterfeiting. As a result, losses due to counterfeiting are reduced. This is the most directly relevant benefit to the counterfeiting problem. Potential long-term gains in other aspects are one of the key factors in adopting a blockchain solution. Blockchain enables lower transaction costs compared to traditional systems. Traditional tracking systems may have limited direct interaction with consumers, with a focus on supply chain efficiency. A major advantage of traditional solutions is that standardized processes comply with legal norms and regulations, facilitating cooperation between stakeholders. By providing detailed product information and authenticity verification, Blockchain has the potential to enhance consumer engagement, thus increasing consumer trust and brand loyalty. Additionally, Blockchain can mitigate the adverse impact of counterfeiting issues on a company's reputation and increase brand value.

In summary, blockchain anti-counterfeiting solutions encompass a range of costs, such as initial setup, operational, implementation, security and risk management, marketing and adoption, and indirect costs. Among these, the initial setup, operational, and implementation costs are particularly significant. The benefits derived from these solutions are multifaceted, including direct economic gains, operational and strategic enhancements, market, and competitive advantages, as well as intangible benefits. In contrast, traditional solutions necessitate consideration of initial expenses, operating costs, and indirect costs. Their advantages lie primarily in authenticity verification, supply chain management, regulatory compliance, and positively influencing market perception. Due to the complex nature of the cost and benefit factors in both frameworks, the blockchain solution presents a diverse range of input costs and offers a spectrum of potential and long-term benefits. In contrast, the traditional solution shows a less complex cost structure and a narrower range of benefits, reflecting a different balance between investment and potential returns. To calculate net benefits, the incremental costs are subtracted from the incremental benefits. The benefits and costs are summarized in table 2.

To compare the net benefits of the two solutions objectively, it is necessary to calculate the difference between the value of the benefit-related factors and the cost-related factors for each solution. It's

important to note that the fulfillment of BCT's potential to eliminate intermediaries and reinforce decentralization largely hinges on the manner and entities responsible for its implementation (Henten and Windekilde, 2019). Wine companies can assign monetary values to relevant factors based on the actual instances of counterfeiting experienced and the timing of implementing chosen solutions. Following this valuation, they can proceed with calculations and subsequent evaluations.

While many studies proposed that blockchain has high input costs, Kshetri (2019) argue that, on average, the advantages of blockchain systems in food supply chains surpass their costs, yet these systems remain largely inaccessible to smaller firms within the industry. However, it is anticipated that the costs of blockchain implementation in the food sector will decrease over time, potentially making blockchain-based solutions more accessible to small and medium enterprises.

The potential challenges and risks of BCT should not be overlooked, despite its economic impact. In their study, Pearson et al. (2019) suggest that blockchain can aid traceability, offering brand security and enhancing public safety against food safety issues. However, BCT extends beyond tracking and holds a transformative role in various industries. Although they recognize the advantages, it is necessary to address challenges such as standardizing data, improving user accessibility, establishing governance, addressing issues of scalability and privacy, and addressing gradual adoption across the supply chain. These issues must be taken into consideration before adopting these technologies in the wine industry. a comprehensive understanding of aspects of costs, benefits, risks and challenges is necessary to make informed decisions regarding the adoption of new technologies.

|          | Blockchain-based anti-counterfeiting solution   | Traditional anti-counterfeiting solution  |
|----------|---|---|
| Costs    | <p><b>Initial Setup Costs:</b></p> <ul style="list-style-type: none"> <li>·Blockchain infrastructure development or implementation</li> <li>·Software development for integration</li> <li>·Hardware for NFC tags</li> <li>•System integration for NFC tags</li> </ul> <p><b>Operational Costs:</b></p> <ul style="list-style-type: none"> <li>• Blockchain transaction fees</li> <li>·Ongoing system maintenance</li> <li>• Third-party management fees</li> </ul> <p><b>Implementation Costs:</b></p> <ul style="list-style-type: none"> <li>·Integration with existing IT systems</li> <li>·Technical Support Costs</li> <li>·NFC tagging materials and labor</li> <li>•Staff training for new technology</li> <li>•Compliance and legal consultancy</li> </ul> <p><b>Security and Risk Management Costs:</b></p> <ul style="list-style-type: none"> <li>·Cybersecurity measures</li> <li>·Data redundancy and storage</li> </ul> <p><b>Marketing and Adoption Costs:</b></p> <ul style="list-style-type: none"> <li>·Consumer education campaigns</li> <li>·Market differentiation initiatives</li> </ul> <p><b>Indirect Costs:</b></p> <ul style="list-style-type: none"> <li>•Downtime during transition</li> <li>•Scalability adjustments</li> </ul> | <p><b>Initial Costs:</b></p> <ul style="list-style-type: none"> <li>•Development and integration of the GS1 system into existing processes.</li> <li>·Scanning and printing bar code or QR code equipment</li> <li>·Software for storing product details</li> <li>·Cost of upgrading product packaging</li> </ul> <p><b>Operational Costs:</b></p> <ul style="list-style-type: none"> <li>·Maintenance of central databases</li> <li>•Staff training for system use and maintenance</li> <li>•Maintenance of scanning and other associated hardware.</li> <li>·Development and maintenance of web or mobile interfaces for end-user access</li> </ul> <p><b>Indirect Costs:</b></p> <ul style="list-style-type: none"> <li>·Additional costs originally incurred by counterfeiting</li> </ul>   |
| Benefits | <p><b>Direct Economic Benefits:</b></p> <ul style="list-style-type: none"> <li>• Reduce losses from counterfeiting</li> <li>·Improve inventory and supply chain management efficiency</li> </ul> <p><b>Operational and Strategic Benefits:</b></p> <ul style="list-style-type: none"> <li>·Transform supply chain operations and management</li> <li>·Optimize supply chain performance</li> <li>•Long-term transaction cost savings</li> <li>•Better data analytics for business insights</li> </ul> <p><b>Market and Competitive Advantages:</b></p> <ul style="list-style-type: none"> <li>• Enhance brand reputation</li> <li>·Increase consumer trust and loyalty</li> <li>• Price premium realized by market differentiation</li> </ul> <p><b>Intangible Benefits:</b></p> <ul style="list-style-type: none"> <li>·Position as an industry leader in innovation</li> <li>·Contribute to overall industry standards</li> </ul>   | <p><b>Authenticity Verification:</b></p> <ul style="list-style-type: none"> <li>·Improve the certification process with limited anti-counterfeiting effects</li> <li>·Facilitate cooperation among stakeholders</li> </ul> <p><b>Supply Chain Management:</b></p> <ul style="list-style-type: none"> <li>·Improve inventory tracking with simple integration</li> <li>•Enhance efficiency in logistics and distribution</li> </ul> <p><b>Regulatory Compliance:</b></p> <ul style="list-style-type: none"> <li>·Easier compliance with international trade standards</li> </ul> <p><b>Market Perception:</b></p> <ul style="list-style-type: none"> <li>•Maintaining industry standard practices</li> </ul> <p><b>Intangible Benefits:</b></p> <ul style="list-style-type: none"> <li>·Brand reliability</li> <li>•Provide a degree of consumer confidence</li> </ul> |



|            |  |  |
|------------|--|--|
|            | for authenticity   |  |
| References | <p>Pincheira et al. (2022), Amling et al. (2021), Demir et al. (2019), Richard et al. (2023), Kshetri (2019), Osmani et al. (2020), Rimba et al. (2020), Jabbar &amp; Oani (2020), Xiong et al. (2020), Li, et al. (2020), Rainero &amp; Modarelli (2021), Tian (2017), Gatteschi et al. (2018), Dutta et al. (2020), Queiroz et al. (2019), Hasan et al. (2019), Westerkamp et al. (2019), Jamil et al. (2019), Salah et al. (2019), Bumblauskas et al. (2019), Behnke &amp; Janssen (2019), Saberi et al. (2019), Ivanov et al. (2019), Thiruchelvam et al. (2018), Tijan et al. (2019), Pournader et al. (2020), Catalini &amp; Gans (2016), Henten &amp; Windekilde (2020), Roeck et al. (2019), Longo et al. (2019), Galvez et al. (2018), Ko et al. (2018)</p> | <p>Kostanecki, (2016), Biswas et al. (2017), GS1 (2005), Dutta et al. (2020), Lo et al. (2019), Danese et al. (2021)</p> |

Table 2. Comparison of the costs and benefits of the two solutions

The contribution of this study to the theory is in enhancing the understanding of anti-counterfeiting strategies in the wine industry. It adds value to the academic field by providing a comprehensive cost-benefit analysis, offering new insights into their effectiveness and applicability to the wine supply chain. From a practical point of view, it provides stakeholders from the wine sector with insights and a robust framework to consider effective anti-counterfeiting measures, which can result in product authenticity and integrity.

## CONCLUSION

This study aimed to investigate the economic benefits of blockchain-based anti-counterfeiting solutions in addressing the problem of counterfeiting in the wine supply chain and compare them to traditional anti-counterfeiting solutions. When considering the choice between BCT and traditional

solutions, it is not always obvious that blockchain will provide greater net benefits. A comprehensive assessment of multiple factors is required. The evidence supports that blockchain solutions offer significant long-term and diverse benefits, such as enhanced transparency, increased market trust, and improved brand loyalty. However, blockchain solutions demand greater initial investment and ongoing operational costs. Conversely, traditional solutions may offer lower initial costs and operational simplicity, but they may not achieve the anti-counterfeiting and supply chain transparency capabilities of blockchain solutions. The evidence's strength lies in synthesizing information from various sources. However, it is crucial to acknowledge that research in this field is rapidly evolving, and new data can further calibrate these economic assessments. Future research could employ Monte Carlo simulations to be used in conjunction with NPV and IRR analysis to address uncertainties and diverse solutions. As a method for modeling realistic systems, it is one of the most useful scientific computational methods due to its simplicity and general applicability.

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## CARTHAGE UNVEILED: "TRANSFORMING HERITAGE TOURISM THROUGH DOURB'IA IN A TURBULENT GLOBAL LANDSCAPE"

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### ABSTRACT

**Purpose:** The aim of this study is to explore the significance of ICT, particularly mobile applications, in enriching cultural and heritage tourism experiences. The objective is to investigate the ways to optimize the cultural and heritage visit experience via mobile applications from the perspective of multidisciplinary experts.

**Design/methodology/approach:** a qualitative approach, utilizing individual semi-structured face-to-face interviews with experts in IT and cultural heritage tourism to gather insights on the "Dourb'ia" application. Seven experts were interviewed over a two-month period. The interviews focused on three main themes: the significance of archaeological sites, the impact of the "Dourb'ia" application on tourism, and recommendations for enhancing the visitor experience.

**Findings:** Post-health crisis, visits to archaeological sites declined in frequency and quality. "Dourb'ia" helps promoting heritage tourism through relaunching these visits, engaging tourist guides, and revitalizing the regional ecosystem. It enhances visitor experiences, attracts new audiences, and meets expert expectations for interactive, accessible information. Experts emphasized the need for engaging content and remote guided tours via avatars. Identified risks include access difficulties, user interface issues, and resistance from guides. To mitigate these, the study recommends ensuring an intuitive user experience, securing personal data, and developing strong communication strategies. Active involvement and incentives for guides are crucial for the application's success.

**Practical implications:** This study highlights the importance of archaeological sites in cultural heritage tourism, emphasizing their preservation and promotion. It demonstrates the effectiveness of mobile applications, like "Dourb'ia," in enhancing tourist engagement and autonomy, and supports the recovery of tourism sectors. The findings underscore the potential of digital tools to drive economic and cultural revitalization, providing valuable insights for sustainable tourism strategies.

**Originality/value:** This paper uniquely integrates digital tools into cultural heritage tourism through the "Dourb'ia" application. It underscores the importance of preserving archaeological sites and demonstrates how ICT can enhance visitor engagement and support tourism recovery. The study offers practical recommendations for using technology to create a sustainable tourism ecosystem, highlighting the potential for digital applications to drive economic and cultural revitalization.

*Keywords:* Carthage, Dourb'ia, Digitalization, Mobile Technology, Economic revitalization, Sustainable tourism, Tourism Experience innovation

## INTRODUCTION

Heritage tourism, linked to the preservation of the past, encompasses various natural and cultural elements. Archaeological sites contribute economically by attracting visitors motivated by authenticity and discovery (Santa Cruz *et al.*, 2017; Cudny *et al.*, 2022). In recent years, technology has profoundly changed our lives, providing cultural venues with the opportunity to modernize their offerings through technological advancements (Sigala, 2018; He *et al.*, 2018). Information and Communication Technologies (ICTs), such as mobile applications and social media, have transformed visitors' perception and interaction with cultural heritage (Tscheu and Buhalis, 2016; Hausmann *et al.*, 2021). In this evolving context, understanding how ICT can enhance the cultural and heritage tourism experience becomes essential.

The aim of this study is to explore the significance of ICT, particularly mobile applications, in enriching cultural and heritage tourism experiences. The objective is to investigate the ways to optimize the cultural and heritage visit experience via mobile applications from the perspective of multidisciplinary experts.

Technological advances, particularly ICT, make it possible to personalize tourist experiences, promoting fun and entertaining learning (Pantano and Corvello, 2014; Elshaer *et al.*, 2024). They improve the appeal of cultural monuments by helping tourists to better understand the heritage and enrich their experience (Tscheu and Buhalis, 2016). However, research on tourism autonomy is limited, and the use of ICT in cultural tourism is still at an early stage, with an information gap between visitors' expectations and what providers can offer (Wang *et al.*, 2016). It is crucial to integrate the perspectives of experts and suppliers to guide the sector holistically, including exploring the importance of ICT, particularly mobile applications as tourist guides, to enhance cultural and heritage tourism experiences (Tscheu and Buhalis, 2016; Cranmer *et al.*, 2020). In this context, this research addresses the following issue: how can the cultural and heritage visit experience be optimized via

mobile applications, according to multidisciplinary experts? To respond to this problem, an exploratory qualitative study was developed with multidisciplinary experts around a novice virtual tourist guiding application "Dourb'ia" dedicated to visiting the archaeological site of Carthage. The study centers around experts' understanding of the importance of archaeological sites as a component of cultural heritage. Particular attention is paid to the opinions of experts on the "Dourb'ia" application and its role in relaunching the activity of visits to archaeological sites. Additionally, the study looks at how the application can help boost the regional ecosystem surrounding archaeological sites by promoting cultural heritage tourism. Among the objectives is the identification of experts' expectations, thus determining the potential designation of "Dourb'ia" as a preferred tool to guide and satisfy visitors exploring the archaeological sites of Carthage. The research also seeks suggestions and recommendations from experts regarding possible improvements to the application to optimize the experience of both regular visitors and to attract new audiences. At the same time, the study evaluates the importance of the involvement of tourist guides in the experience of the application, finally exploring the potential risks of failure of the "Dourb'ia" application which must be prevented.

## THEORETICAL REVIEW

**Cultural heritage tourism: a form of tourism with its own requirements:** Cultural tourism encompasses a diversity of definitions, ranging from personal enrichment to the search for new authentic and cultural experiences ( Debeş and Taçgey, 2020; Ruhanen *et al.*, 2021). An essential component of this type of tourism is heritage, including both tangible elements such as historical monuments, museums and archaeological sites, and intangible elements such as traditions, festivals and techniques (Origet Du Cluzeau, 2013). This cultural heritage, whether tangible or intangible, is of undeniable artistic or historical importance and is preserved and presented to the public by public or private entities (Duthion and Walker, 2014).

**The cultural heritage tourism market: needs, demand and motivations of visitors:** The demand for heritage tourism is influenced by a variety of factors, including a growing awareness of heritage, the ability to immerse oneself in historic environments, financial affluence and access to the arts, and the need to transcend contemporary experiences to meet psychological needs for continuity (Adongo *et al.*, 2017). Heritage experiences are a priority for many travelers, highlighting the importance of history in their motivation to travel (Rasoolimanesh *et al.*, 2021). The value of cultural heritage lies in its ability to integrate the tangible and intangible meanings of historical and cultural sites (Lee *et al.*, 2010). This motivation to understand and make sense of cultural exposure attracts millions of tourists to cultural destinations each year (Li, 2014), thereby spurring the growth of cultural tourism due to the growing demand for travel fueled by economic growth (Ismagilova *et al.*, 2015). Learning, enjoyment,



and escape are key motivations for visitors to heritage destinations. Understanding the entire tourist experience in these cultural destinations is therefore essential to meeting visitor expectations. In heritage tourism marketing, strategies are often focused on the short term and cultural positioning, emphasizing visitor spending and prolonging their stay (Pike, 2004). Attention is turning to market segmentation to better understand diverse groups of heritage visitors (Tsiotsou and Vasaioti, 2006). This segmentation uses different variables such as demographics, motivation, activity, attitude, well-being, and acceptance of use (Caserta and Russo, 2002). However, this approach may neglect long-term strategies and aspects of research and education, essential for creating a culturally appealing representation of heritage and meeting the unique needs of visitors (Tsiotsou and Vasaioti, 2006).

**Technology for cultural and heritage tourism experiences:** Memorable tourism experiences (MTE) and tourism experiences in general are two concepts that are related, but have different meaning and scope (Zhang *et al.*, 2017). Experiences play a crucial role in travel journeys and are a direct result of the consumption of tourism products (Chen *et al.*, 2020). On the one hand, experience occupies an essential place in the field of tourism, because it is mainly based on intangible services. And on the other, the products and services of this industry are intrinsically linked to lived experience (Williams, 2006), and tourists experience it by staying in hotels, dining in restaurants, and visiting tourist destinations (Yuan *et al.*, 2008). Therefore, creating unforgettable experiences is very important for the tourism industry business. The rapid growth in the use of smartphones and their mobile applications has transformed the way the tourism industry interacts with travelers, with smartphones becoming essential tools for tourists (Dickinson *et al.*, 2014; Dias *et al.*, 2021). In cultural tourism, tourist destination apps play a crucial role in providing a comprehensive description of sites and contributing to the promotion of cultural heritage, which influences travelers' decision (Lerario *et al.*, 2017). For tourists, these applications facilitate the destination selection process and influence their behavior as consumers by enabling two-way communication, while they offer virtual tours and additional information according to their interests (Fang *et al.*, 2017). The advancement of self-motivated learning methods in cultural tourism includes the use of audio guides and personalized mobile applications, while the introduction of augmented (AR) and virtual reality (VR) offers new perspectives to improve the visitor experience (Raptis *et al.*, 2018). The effectiveness of these mobile guides depends on their integration into the overall context of the guided environment, including visitors, historical exhibits, and cultural or social aspects (Sung *et al.*, 2010). The design of these guides aims to foster close interaction between visitors and the context of the exhibitions, going beyond traditional visitor-computer interaction to encompass deeper interaction with the historical and cultural context (Bain and Ellenbogen, 2002; Li *et al.*, 2023). Thus, these technological advances aim to enrich the visitor experience by further immersing them in cultural and historical heritage. Technological advances in

the fields of information and communication technologies, such as social media, mobile applications, location services and augmented reality, have profoundly influenced tourism businesses as well as cultural and heritage stakeholders (Tscheu and Buhalis, 2016). These advances have facilitated tourists' access to an increasing amount of information adapted to their specific needs (Ndou, 2011), thus transforming their perception and interaction with cultural heritage (Were, 2014). For example, tourists use emerging technologies to share their experiences, creating direct competition with traditional promotional materials and influencing the choices of other travelers (Du Cros and McKercher, 2015). Service providers must therefore adapt to this transformation by becoming centers of communication and interactive information, taking advantage of the opportunities offered by digital technology (Lytras *et al.*, 2011; Tscheu and Buhalis, 2016). However, despite these advances, traditional tools such as brochures and guidebooks continue to dominate the practice of cultural and heritage tourism (Pröbstle *et al.*, 2016), although ICT has fundamentally changed the collection, storage, management, and distribution of information (Buhalis, 2003; Ali and Frew, 2013; Saydam *et al.*, 2022).

## METHODOLOGY

**Choice of Site:** In 2018, the archaeological site of Carthage welcomed 300,000 visitors (Source: AMVPPC). The UN, in a 2012 report on the tourist management of Carthage, highlights the difficulty of reading the site, suggesting the need to make visible the link between its components. Currently, information on the site is generally obtained through maps or blue guides, often reserved for enthusiasts, or by hiring a human guide in advance. Signage on site is dilapidated, making access to information a personal challenge. However, a solution is emerging with the mobile tourist guidance application "Dourb'ia", created by a Tunisian multidisciplinary team. This application, focused on the archaeological site of Carthage, presents itself as an intelligent guide offering an experience enriched by real-time GPS navigation and varied multimedia content. "Dourb'ia" has a cultural and social impact, contributing to the United Nations Sustainable Development Goals, particularly in the areas of education, decent work, innovation and infrastructure, as well as in the promotion of sustainable cities durable. By promoting access to heritage through adapted content, by involving local guides and by creating a link between the monument and its ecosystem, the application addresses several aspects of the sustainable development objectives.

**Methodological choices:** A qualitative approach is recommended, given that the "Dourb'ia" application represents a major innovation in this context (Malhotra, 2014). For this preliminary phase, individual semi-structured face-to-face interviews were carried out, promoting greater openness (Gavard-Perret *et al.*, 2008). These interviews involved experts in IT and in the cultural and sustainable

heritage tourism sector, selected for their expertise in mobile applications and their in-depth knowledge of cultural tourism issues (Décaudin and Elayoubi, 2009; Evrard *et al.*, 2009). An interview guide was prepared, addressing three main themes to understand the points of view, expectations and recommendations of the experts, covering the importance of archaeological sites, the impact of the "Dourb'ia" application on tourism, and recommendations to improve the visitor experience while avoiding the risk of failure.

**Procedure:** 7 interviews with experts (appendix 1) were carried out, each lasted on average 1 hour. Contacting the various experts took 2 months given their commitments and took place between December 2022 and February 2023. The experts shared their opinions using either the Tunisian dialect or French, and they agreed to reveal their identities rather than remain anonymous. Following this approval from the participants, all interviews were fully translated and harmonized into French, then transcribed for subsequent analysis.

## RESULTS ANALYSIS

For the analysis of semi-structured interviews, the method used is thematic content analysis (Paillé and Mucchielli, 2016), carried out using the NVIVO 12 plus software, recognized for the study of interviews or qualitative observations and based on a technique of decontextualization of the corpus, thus allowing the data to be explored in depth and interpreted in depth. To begin with, the 7 interviews with the experts were all transcribed in Word format, then exported to the NVIVO 12 plus software to create the study database. Then thematic coding was developed to group similarities among the many answers obtained by each expert interviewed to facilitate the analysis and processing of the data.

**Theme 1: The importance of archaeological sites in the promotion of heritage:** This first theme aims to understand the importance of archaeological sites in Tunisia and the role they have in promoting national heritage, while evoking the dilemma of the decline in cultural and heritage tourism activity following the crisis. health conditions experienced in recent years.

**The decline in the frequency and quality of visits following the health crisis:** All experts affirm that there has been a remarkable and significant drop-in activity in the cultural heritage tourism sector, following the health crisis linked to Covid in recent years, which has been notable in frequency and in the quality of visits to archaeological sites. As an example, Azzedine declared: "I can say, as an eyewitness, that for the first time in thirty years the flow of visitors to the archaeological sites has practically stopped and that is because of Covid and the pandemic which changed everything. When the site is deserted, all economic activity linked to it is also suspended. ". And in the same context, Nejib, a retired archaeologist, who operated in the field for 40 years announced: "Because of Covid

there have been disastrous consequences on the fall in attendance at museums and archaeological sites from Tunisian and foreign visitors. On the other hand, Chérifa, added an additional aspect by emphasizing that archaeological sites were neglected not only before, with the previous crises experienced by the country, but especially after the Covid period. They have been abandoned both by tourists and by the structures responsible for them (maintenance, development, weeding, cleanliness, etc.). This observation highlights the broader consequences of the health crisis on the management and maintenance of archaeological sites, as well as on their attractiveness for visitors.

**Theme 2: The attribution of the “Dourb’ia” tourist guide mobile application in favor of cultural heritage tourism.** This topic discusses experts' ideas and their views of application attribution “Dourb'ia” in favor of cultural heritage tourism, under three essential sub-themes. Firstly, the relaunch of the activity of visits to archaeological sites, then the involvement of tourist guides in the experience of the application and finally the revitalization of the regional ecosystem around archaeological sites through the “Dourb’ia” application.

**The relaunch of the activity of visits to archaeological sites:** At this level, the experts interviewed in this study share the idea that the assignment of the “Dourb'ia” application will help to relaunch visits and activity within the archaeological site of Carthage, after the health crisis, it will obviously have positive and promising consequences, especially since it offers a well-instructed guided tour. “Dourb'ia” will help improve the experience of tourist visitors or any type of visitor, but also it will help attract a new audience and this is part of the promotion of cultural heritage tourism in Tunisia. Like Nejib, he announces: “Such an application will certainly improve the quality of cultural tourism, first by reaching residents, and then after the resumption of organized trips from abroad. “. Among other things, as an illustration of MohamedAli “The relaunch of visits will take place after the resumption of tourism because tourists represent most visitors. This application could contribute to this and will improve the visiting experience and could attract a new local audience. “. In addition: “Submitting a list of thematic circuits and circuits adapted to the profile of each visitor with rich and diversified content in a properly designed and well-prepared application will be able to revive the activity of visits to archaeological sites. » says Azzedine.

**The involvement of tourist guides in the application experience “Dourb’ia”:** The involvement of tourist guides in the experience of the “Dourb'ia” application is of undeniable importance in the development and promotion of the application, for their level of knowledge and expertise. , but also because they constitute a stakeholder in the cultural tourism sector. In addition, the development of this digital tourist guide application aims to respond to the SDG8 sustainable development objective issued by the United Nations mentioned in the previous chapter, which is decent work and economic growth, and this through involve local guides. The experts interviewed at this level expressed their

views and recommendations on how to involve them in the experience of “Dourb'ia”, in fact they mentioned that the “Dourb'ia” application must offer guides a platform to showcase their unique skills, emphasizing their vision, their creativity and their authenticity. It should be designed to make it easier to prepare for tours by allowing users to find suitable itineraries and search for knowledgeable local guides. In addition, the application will be able to offer content that enriches the visitor experience, while ensuring that the irreplaceable role of guides is respected. It is crucial to explain to guides that the objective of the application is in no way to replace them, but rather to boost cultural activity in the sites. They must be assured that the influx of additional visitors generated by the application will represent a favorable opportunity for them. Khaled, who has been an IT teacher trainer for 10 years, says this: “Provide a platform to exhibit know-how: Vision, creativity and authenticity. He can use it as a source of information during the visit, a pre-visit preview or to provide post-visit reminders. The application can call upon a list of guides. ” Also, MohamedAli illustrates: “Guides could adopt it if it is designed and presented as a tool to prepare the visit, identify the circuit, find a local guide, or as a support offering content that could enrich the visit, and above all not Do not replace the guide. “. The same goes for Azzedine, he says: “To get them involved, we need to explain to them what the “Dourb'ia” application is (and that it is not intended to replace them). We must reassure them that this application will revive cultural activity in the sites and that the increase in the number of visitors constitutes a mass for them”.

**The revitalization of the regional ecosystem around archaeological sites through the “Dourb'ia” application:**

To ensure the revitalization of economic activity and the regional ecosystem around archaeological sites, particularly that of Carthage, it was a question of exploring the experts' recommendations regarding the development of the application in this direction. The experts' answers revolve around making “Dourb'ia” an application that offers various features such as events, meeting groups and an online store. It will allow users to create an account with their profile and will include sections dedicated to restaurants and hotels. However, local artisans will have the opportunity to be listed in the application, which will offer a list of artisans, guest houses and hotels. To design this application, it would be relevant to draw inspiration from popular sites such as Airbnb and TripAdvisor. The success of the application in terms of revitalizing the regional ecosystem will then depend on the quantity of actors highlighted and the number of users. It is essential that these players provide regular services and maintain consistent quality to ensure user satisfaction. For example, Hamdi declares: “Events, meeting groups, an online store, allow them to create an account with their profile, add restaurants section, hotels section. “. On the other hand Issam announces: “For artisans around the sites they can be referenced in the application. Put a list of artisans, guest houses, hotels. Take inspiration from the RBNB and TripAdvisor sites. » And MohamedAli, illustrates: “It will

depend on the number of actors highlighted in the application and the number of users. These players will also have to offer regular services of consistent quality. ". Furthermore, Chérifa expressed the following idea: "Create a gastronomic, cultural, commercial dynamic and promote them via digital and why not also exhibit them in real life. Marketing of local products. ", by incorporating its recommendations, the "Dourb'ia" application could play a key role in promoting tourism of local products, by creating a gastronomic, cultural and commercial dynamic through digital, while also considering exhibitions in real life to promote these products.

**Theme 3: Improving the visitor experience of the archaeological site of Carthage through the "Dourb'ia" application.** The third theme is the last mentioned in the interview guide with the experts, it aims to extract the recommendations of the interviewees for improving the visitor experience of the archaeological site of Carthage through the digital tourist guidance application "Dourb'ia". The aim behind the questions in this part of the study was to obtain instructions from experts to improve the experience of regular visitors but also to attract a new audience on the one hand, and on the other to explore the expectations of specialists. and their visions on the risk of failure of the "Dourb'ia" application to avoid, and to take into consideration in the development and promotion of the application.

**Improving the regular experience:** The conclusive idea according to the experts interviewed, to improve the experience of regulars visiting the archaeological site of Carthage through the "Dourb'ia" application, is to ensure that the application is interactive and community based, Khaled explain that this could be implemented by "'Adding reviews, engaging visitors in content creation, sharing experiences, building community", this will be helpful in the construction of a dynamic community around the site. Since, regulars are more demanding because they have already experienced the visit, Cherifa explain that "it is therefore essential to integrate new experiences within the existing experience through new immersive technologies which can play a key role in offering increasingly attractive and enriching experiences". Additionally, experts explained that a personalized avatar for each site, with the guides' faces, could be added to provide information and guide visitors. It would be essential to ensure the stability of the application, avoiding bugs and guaranteeing proper functioning. However, a lightweight approach to the application could be favored, using a robust server, potentially by purchasing a cloud, which would allow data to be stored while guaranteeing the lightweight and rapid operation of the application. Ultimately, to improve the experience of regulars, we must find the right balance between preserving familiar landmarks and introducing innovations to maintain visitor interest and satisfaction.

**Attracting new audiences:** To attract a new audience, each of the specialists interviewed declared a set of recommendations to make the "Dourb'ia" application an element attracting new visitors and

users of the application, it would be necessary to create immersive and interactive experiences, by putting the focus on young users. Khaled indicate that “this could be achieved by using new technologies and integrating games and quizzes into the application”. To specifically attract young people, Issam explained “it would be wise to integrate games adapted to their profile and to link the circuits offered in the application with the routes popular with hikers”. Néjib emphasises also on the “importance to promote the application through targeted advertising and establish contacts with educational institutions, associations, and the general public”. By offering immersive, interactive experiences and responding to the interests of young people, the “Dourb'ia” application would be able to effectively attract a new audience. Finally, it was also suggested to create immersive experiences for children in archaeological sites to promote the identification of young people with their history and to invest in school visits in order to offer an experiential approach to the history rather than a purely educational approach. This approach aims to promote the reconciliation of young people with their identity and to establish proximity with their history as it was highlighted by Cherifa. To do this, it is necessary to rethink these sites by offering them a new, innovative, and digital experience.

**The expectations of the experts of the “Dourb'ia” application:** The expectations expressed by the experts of the “Dourb'ia” application reveal several key points. Khaled explain “They are looking for a fluid, easily accessible source of information that offers content rich in fun and interactive information, with an emphasis on the concept of “storytelling” to make the visitor experience more captivating”. In addition, for Issam “it is crucial to provide quality content, easily accessible on site, allowing users to quickly find the information they are looking for”. The experts also want to offer the possibility of carrying out guided tours remotely using avatars, with fixed times and reservations. This would expand visiting opportunities and provide a flexible experience for visitors. Finally, one of the key objectives set out by the experts as Azzedine summarize “is the necessity to promote the widespread adoption of digital tools in tourism activity, by emphasizing to decision-makers and guides the importance of information and communication technologies. to enrich visits to the sites”. Considering the expectations of the experts of the “Dourb'ia” application, will help to guarantee a fluid, interactive and immersive experience, as well as the benefits of a wider adoption of digital tools in the tourism industry to meet the needs and to visitor expectations.

**Risks of failure of the “Dourb'ia” application to avoid:** The experts' analysis reveals several possibilities of failure of the “Dourb'ia” application which it is crucial to avoid ensuring its success. First, Khaled says “we must ensure that users can easily find relevant information, by improving the search and organization of content. Access difficulties must also be resolved, by making the application user-friendly and accessible on different platforms. It is essential to pay particular

attention to the ergonomics of the application, ensuring an intuitive and fluid user experience. Personal data security should be a top priority, putting strong measures in place to protect sensitive user information". Issam point to a very important issue "Reluctance to change on the part of guides and public institutions is a major challenge, so it is essential to actively engage them and raise awareness of the benefits of the app". Furthermore, MohamedAli mention "it is important to consider the possibility that guides, and travel agencies may question the legitimacy of the initiative, highlighting the need to implement strong communication strategies aimed at actively promoting the benefits of the application for tourists". By developing convincing messages and highlighting the concrete benefits they can derive from using the "Dourb'ia" application, it is possible to counter any attempt to discredit and strengthen the support of guides and travel agencies. Effective and targeted communication, focused on the strengths and functionalities of the application, will generate interest and confidence among tourists in particular and visitors in general, thus strengthening the position of the application in the tourism market. Finally, it is crucial to promote frank and active involvement of guides, by creating incentives and developing mutually beneficial partnerships. By taking into consideration these possibilities of failure and implementing appropriate measures to avoid them, the "Dourb'ia" application will be better prepared to offer a quality cultural tourism experience and achieve its objectives.

## DISCUSSION OF RESULTS

**The Importance of Archaeological Sites in National Heritage:** The findings of our qualitative study highlight the pivotal role of archaeological sites as integral components of national heritage, aligning with existing literature that underscores their significance as living testimonies of history (Duthion and Walker, 2014). These sites not only provide direct immersion into the past, sparking curiosity and encouraging research but also serve as tangible traces of heritage that enhance their valorization. This perspective is supported by Origet Du Cluzeau (2013), who emphasizes the dual importance of tangible and intangible cultural elements in heritage tourism. Experts in our study recognize the exemplary state of conservation and the international recognition of these sites for their scientific and historical values. This resonates with Rasoolimanesh *et al.*, (2021), who note that the motivation to understand and appreciate historical contexts is a significant driver for heritage tourists. Furthermore, our findings corroborate the assertion by Lee *et al.*, (2010) that the value of cultural heritage lies in its ability to integrate the tangible and intangible meanings of historical and cultural sites.

**Mobile Applications as ICT for Cultural Heritage Tourism in Carthage:** Our study underscores the transformative role of information and communication technologies (ICT), particularly mobile applications, in enhancing cultural heritage tourism. This is consistent with the observations of



Dickinson *et al.*, (2014) and Tscheu and Buhalis (2016), who highlight the profound impact of smartphones and mobile apps on the tourism industry. These technologies facilitate access to a wealth of information tailored to tourists' needs, thereby enhancing their overall experience. The "Dourb'ia" application, as revealed by our study, offers significant advantages for visitors to the archaeological site of Carthage. These benefits include interactive opportunities that allow tourists to enjoy unique experiences, as noted by Gretzel *et al.*, (2015). Tunisian visitors, in particular, emphasize the application's role in sharing experiences and promoting cultural heritage via social networks, which aligns with Fang *et al.*, (2017) who discuss the influence of mobile applications on travelers' decision-making processes.

**Perceived Benefits of Using Mobile Applications during Cultural Visits:** Our findings indicate that mobile applications like "Dourb'ia" enhance both autonomy and the quality of visitor experiences, echoing Martín-Sánchez *et al.*, (2012). Tourists highlight the importance of these apps in planning activities and accessing information, which is crucial for meeting their expectations and enhancing their engagement with cultural sites. This is in line with the insights of Sung *et al.*, (2010) and Raptis *et al.*, (2018), who stress the importance of integrating mobile guides into the visitor experience to foster deeper interactions with the historical and cultural context.

The positive impact of the "Dourb'ia" application on post-health crisis visits is particularly noteworthy. Experts anticipate its contribution to revitalizing cultural, heritage, and economic tourism activities at the archaeological site of Carthage. This aligns with the views of Pröbstle *et al.*, (2016) who acknowledge the continuing relevance of traditional tools while recognizing the transformative potential of ICT in tourism.

**Revitalization of Cultural and Economic Activity through "Dourb'ia":** Experts foresee the "Dourb'ia" application playing a crucial role in diversifying the public and improving the quality of cultural tourism. This expectation is supported by Tsiotsou and Vasaioti (2006), who highlight the importance of market segmentation and understanding diverse visitor groups in heritage tourism. Additionally, the application is expected to foster a gastronomic, cultural, and commercial dynamic, which could significantly boost regional economic activity. This aligns with the broader literature that emphasizes the need for tourism strategies to focus not only on short-term gains but also on long-term cultural appeal and sustainable economic benefits (Pike, 2004).

In conclusion, the "Dourb'ia" application exemplifies the intersection of technological advancements and cultural heritage tourism, demonstrating how digital tools can enhance visitor experiences, promote cultural heritage, and drive economic revitalization. These findings underscore the importance of integrating technology with traditional tourism practices to meet the evolving needs and expectations of cultural tourists.

## CONTRIBUTIONS

This study offers significant contributions to the field of cultural heritage tourism by highlighting how archaeological sites can be leveraged as pivotal elements of national heritage. It emphasizes the necessity of their preservation and promotion as key components of cultural tourism strategies. The findings align with the current literature, underscoring the critical role these sites play in offering immersive historical experiences that spark curiosity and encourage research. By valuing both their tangible and intangible elements, the study supports a comprehensive approach to heritage tourism that can enrich visitors' understanding and appreciation of history.

Furthermore, the study demonstrates the effectiveness of mobile applications in enhancing tourist engagement and autonomy, showcasing the potential for information and communication technologies (ICT) to revolutionize the way cultural heritage is experienced and promoted. The "Dourb'ia" application serves as a prime example of how digital tools can be seamlessly integrated into tourism strategies, effectively meeting the evolving needs of modern visitors. This application not only facilitates access to tailored and interactive experiences but also plays a crucial role in supporting the recovery of tourism sectors affected by crises. By reviving visitor interest and participation, such applications can significantly contribute to the economic revitalization of cultural heritage sites.

Additionally, this study highlights the broader implications of technological advancements in driving economic and cultural revitalization. It demonstrates how digital tools can foster a dynamic and sustainable tourism ecosystem, providing valuable insights for policymakers and stakeholders. By leveraging these technologies, there is a substantial opportunity to enhance the cultural appeal and economic benefits of heritage tourism, ensuring long-term sustainability and growth in this sector.

## CONCLUSION

This research makes significant contributions on several fronts. First, it fills an important gap in the landscape of Tunisian studies by exploring the motivations, obstacles and needs for using a mobile tourist guidance application during cultural visits to the archaeological site. Unlike previous studies, which have mainly focused on individual cases and the user's point of view, this research adopts an exploratory approach by presenting the perspectives of multidisciplinary experts thus enriching the existing literature. Additionally, the specific recommendations of the interviewed experts reinforce existing theoretical knowledge. Focusing on the application of digital and interactive technologies in Carthage, this research aims to address the challenges of cultural and heritage tourism, revitalize the site, and promote it in accordance with the expectations of visitors and experts. In conclusion, this study offers a better understanding of the requirements of cultural heritage tourism through the analysis of the archaeological site of Carthage and the "Dourb'ia" application. The results identify

avenues for optimizing the visit experience, certainly contextualized specifically in Carthage but easily adaptable to other archaeological sites of world heritage.

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## LIST OF ANNEXES

### ANNEX 1

Table 4: Characteristics of the expert sample

| Last name First Name the expert | Occupation   | Expertise field  | level of studies                      | Duration of experience professional             |
|---------------------------------|--|--|---------------------------------------|---|
| Khaled junior Hafaiedh          | IT teacher trainer                                 | IT   | PhD                                   | 10 years  |
| BEN LAZREG Nejib                | Retired archaeologist                              | Archeology and Roman Christianity                              | Research authorization                | 40 years  |
| Issam Barhoumi                  | Computer engineer                                  | IT   | IT engineer                           | 6 years   |
| Mohamed Ali Midani              | CEO DCX  | Digital heritage enhancement                                   | Master degree                         | 11 years old                                    |
| Azzedine Beschouech             | University professor, Unescopourle expert heritage | Cultural heritage in relation to development sustainable       | Associate professor of the university | Half a century including around forty at UNESCO |
| Chérifa Lakhoua                 | University professor                               | Tourism marketing, networking in the tourism ecosystem tourism | PhD                                   | A twenty years                                  |
| Hamdi Sansa                     | Engineer in mobile development                     | Ux design<br>EU design   |                                       |   |

## ADVANCING RESEARCH ON SUSTAINABILITY IN INTERNATIONAL BUSINESS: A SYSTEMATIC LITERATURE REVIEW

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### ABSTRACT

The concept of sustainability, increasingly prominent in the global economic debate, needs a balance between economic, environmental, and social aspects, crucial for both business success and social prosperity. International companies, aware of this interconnectedness, try to maximize economic performance while concurrently pursuing sustainability in the medium- long term. Despite the competitive advantages associated with sustainability, companies face complex challenges in the international arena, such as cultural, legal, regulatory, and social pressures, which have prompted them to integrate these issues into their business strategies. Academic literature has provided valuable insights into the relationship between sustainability and international business, investigating a multitude of aspects and features of connections between these two elements. Yet, there is still a gap in the full comprehension of this relationship and those issues that on one hand influence the adoption of sustainability practices and on the other hand the consequences and actions that this adoption requires. This literature review aims to offer a comprehensive overview of these elements through a systemic conceptualization, examining the challenges and opportunities that international companies face in pursuing sustainable objectives, thereby contributing to delineating potential opportunities for the future of the global economy.

*Keywords: sustainability, international business, systematic literature review, conceptual model*

### INTRODUCTION

The concept of "Sustainability", understood as a multidimensional concept, encompassing economic, environmental and social principles, which are mutually indispensable for the development of social prosperity compatible with business performance growth (Griggs et al., 2013; Eccles, Ioannou, & Serafeim, 2014) plays a central role, both in the global political-economic debate and the actions of international economic players. These latter increasingly seek optimal performance while maintaining economic and social sustainability. In an era of constant economic growth within hyperglobalized context, the relationship between sustainability and international business has become one of the

dominant themes in both academic and practical sphere. The growing awareness of the importance, in fact, of environmental, social and economic sustainability has prompted international companies to integrate sustainability into their business strategies, aiming to align profitability with sustainable goals. A key starting point regarding the relationship between sustainability and international business is certainly represented by Kramer and Porter (2011) concept of “Creating Shared Value” (CSV), emphasizing how companies are able to generate economic value through the application of sustainable practices that create value for society and simultaneously respect the environment. This perspective has influenced many companies, leading them to recognize that sustainability is not only an ethical issue, but also a driver of innovation and competitiveness. The adoption of sustainable practices has been associated with several competitive advantages. As proposed by Eccles, Ioannou, and Serafeim (2014), companies that integrate sustainability into their business strategies tend to have superior long-term financial performance. This is also supported by a study by Khan, Serafeim, and Yoon (2016), which showed a positive correlation between disclosure of sustainability information and corporate financial performance. However, sustainability in the international context also presents significant challenges. Companies must therefore take an adaptive and flexible approach to navigate this complex environment influenced by cultural factors, as well as by legal, historical, and political institutions that establish distinct approaches and models (Doh and Guay, 2006). Again, consumer and stakeholder pressures have become a key driver for the adoption of sustainable practices. In fact, according to Luchs and Kumar (2017), consumers are increasingly demanding environmentally and socially responsible products and services. Investors’ increasing focus on sustainability has led companies to integrate sustainability considerations into their investment decisions and business strategies (Friede, Busch, and Bassen, 2015). Innovation is another crucial aspect in the relationship between sustainability and international business. Industry studies have shown how sustainable innovation can create new market opportunities and rewrite competitive dynamics (Nidumolu, Prahalad and Rangaswami, 2014) highlighting how the adoption of sustainable technologies and business models can not only reduce environmental impact, but also generate economic and employment value. Sustainability governance is another key element that has received increasing attention in the scholarly literature. Waldman, Siegel and Javidan (2006) highlighted the importance of committed leadership, proposing an integrative framework on the role of leadership to ensure the effectiveness of sustainable practices. Also, Schaltegger and Wagner (2011) explored sustainable leadership practices and management education as key tools for achieving corporate sustainability. In addition, collaboration between companies, governments, and non-governmental organizations has been identified as a critical factor in addressing global challenges of social impacts, such as, above all, climate change (Kaplan, Serafeim, and Tugendhat, 2018). In conclusion, the relationship between

sustainability and international business is complex and multidimensional, influenced by a range of factors from consumer and stakeholder pressures to innovation and corporate governance. The scientific literature in recent years has provided a number of valuable insights into how companies can integrate sustainability into their business strategies to generate economic, social, and environmental value. However, it touched upon some established concepts without exploring emerging trends or innovations in sustainability practices and their implications for international business. The aim of this paper is to attempt to fill this gap, through a literature review on sustainability within the context of international business. We explore the current state of scholarly production, analysing the most investigated aspects of this relationship, and identifying potential gaps in the literature and future research opportunities, in order to better understand how international companies address sustainability challenges and their impact on the global economy. Our review aims to provide a comprehensive overview of existing knowledge and to identify the most promising areas of study for the future.

## METHODOLOGY

With the aim of providing an overview of the literature that has investigated the theme of sustainability in International Business a Systematic Literature Review was conducted following the literature methodological approach in choosing the source proposed by Akbari et al. (2020) and Bretas and Alon. For the identification of articles, we chose to use the academic scientific indexing service ISI Web of Science (WoS) as the source. We then proceeded with the identification of the reference keywords for the investigated theme (Bargoni, Ferraris, Bresciani, Camilleri, 2022); regarding this, the identified keywords were "sustainab\*", truncated, so that the terms 'sustainability' and 'sustainable' respectively can also be incorporated in the research query, and "international business." To identify scientific articles most relevant to the objective of our research, we decided to confine the selection in the use of WoS to those articles containing the selected keywords in topic (TS), or title (TI) or abstract (AB). The final query identified was as follows: TS= ("sustainab\*" AND "international business") OR TI= ("sustainab\*" AND "international business") OR AB= ("sustainab\*" AND "international business"). The first output obtained was 434 articles. From this result we added further search criteria: we selected all the "Articles" categorie and all articles related to the specific categories proposed by WoS, namely "Business", "Management"; also we have set articles in the "english" language, which upon initial analysis already constituted 100% of the overall sample. The final sample obtained consisted of 200 articles. Differently to the established search criteria, we chose not to limit the timeframe, but in order to improve the quality level of our literature analysis, we used an additional selection criterion, i.e. we identified in the sample of 200 articles, only those papers published in journals included in the



Academic Journal Guide - AJG (<https://charteredabs.org/academic-journal-guide>). A preliminary analysis revealed that the overwhelming majority of scholarly output in the obtained sample was concentrated in the last decade. This aligns with the growing evolution of the theme, increased attention from economic practitioners, and the relevant academic and regulatory framework. The diagram below shows the various steps in the process of selecting the sample of articles obtained:

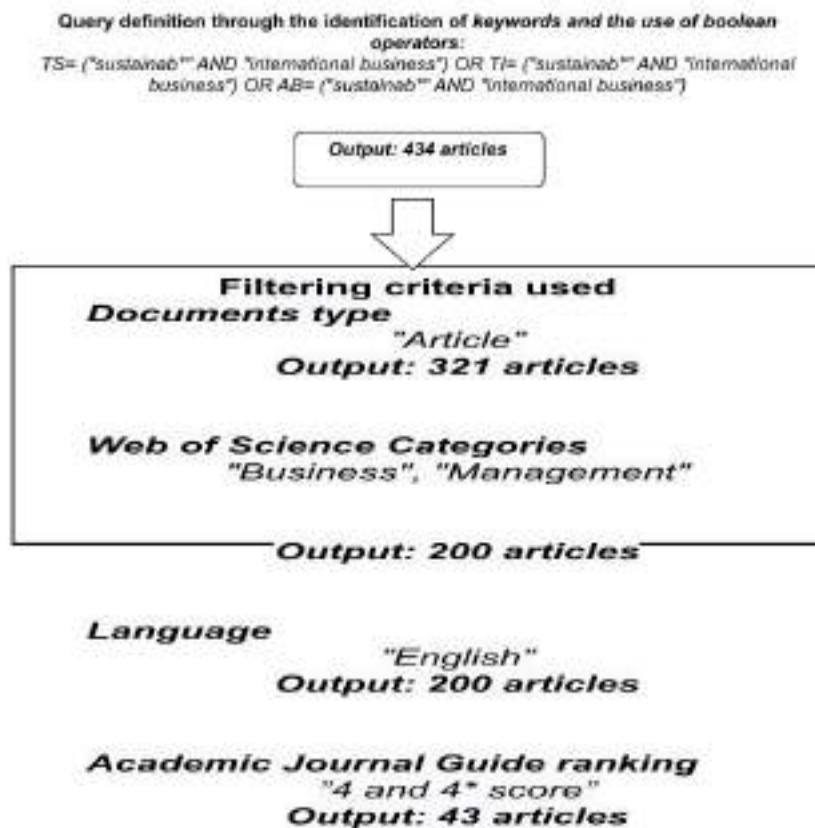


Figure 1. *Sample selection process*

Firstly, the sample of selected articles was then analyzed using the software "Bibliometrix" (Aria and Cuccurullo, 2017) with the aim of conducting statistical and graphical surveys that could synthesize the research, emphasizing relevant aspects of the results obtained in relation to the scientific production on the topic. Bibliometric analysis, indeed, allows for more reliable and easily analyzable results in the systematic reconstruction process of scientific literature on a subject, without the risk of overlooking past articles, but especially through "transparent" and "reproducible" methods. We focused on the most relevant words present in the abstracts of the analyzed articles. "IB" (international business) and "MNEs" (multinational enterprises) are the most frequently reported words in the abstracts, with frequency values of 38 and 36 times respectively; followed by words such as "international" (28), "sustainability" (22), and "sustainable" (18). Others words frequently used are: "institutional" (15), "multinational" (14), "development" (13).

## FINDINGS

Subsequently, we proceeded to analyze the geographical data of the article sample. The bibliometric analysis revealed that the predominant productive nations are UK, USA and Netherland with 24, 16 and 16 articles produced on the topic, respectively. Following are Canada, Denmark and Italy, while the remaining countries, especially those in the West, such as Spain, Portugal and Norway show low values.

### Country Scientific Production



Figure 2. *Country Scientific Productions*

Further observation regarding the investigated article sample was conducted on the topics of the studies. The survey results confirmed previous observations, namely that topics such as IB (38) and MNEs (36) have garnered increasing attention from scholars and researchers, particularly in the most recent biennium, between 2022 and 2024. This data could be attributed not only to the growing centrality that the sustainability theme is assuming in the global economic system but also to the increasing regulatory attention involving nearly all economic operators. Additionally, it is possible to observe, in the same time frame, a growth in trends related to the words sustainability (22) and sustainable (18) and practices (11) thus suggesting how these themes are increasingly recurring and used in the studies on topic.

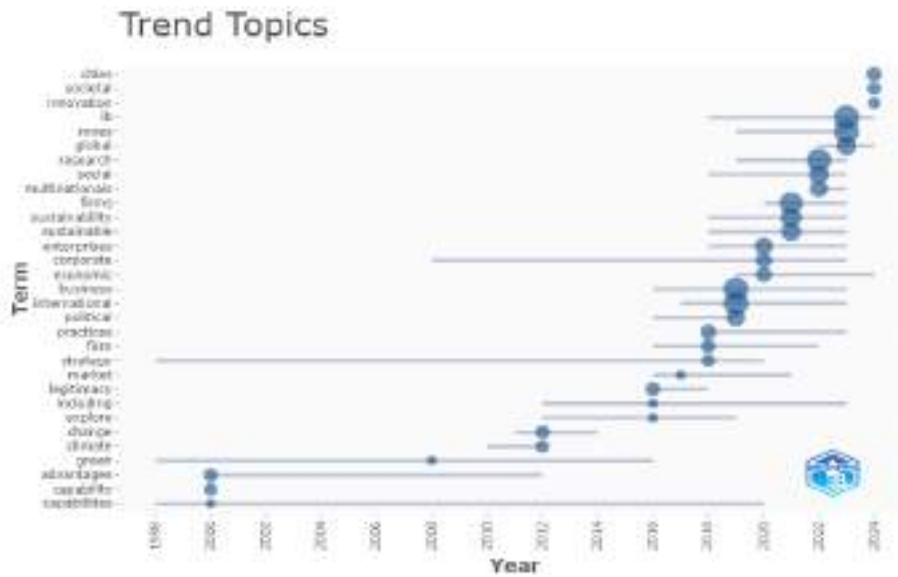


Figure 3. Trend Topics

Observing more specifically the characteristics related to the articles and the authors, we can observe that among the articles in the sample, the most cited one overall has 390 citations (Kolk, 2016), followed by Rugman and Verbeke (1998) and Luo (200); others that present significantly lower and quite homogeneous data (220 cit. Witt, 2019; 182 cit. Kolk and Pinkse, 2008; 160 cit. Darendeli and Hill, 2015).

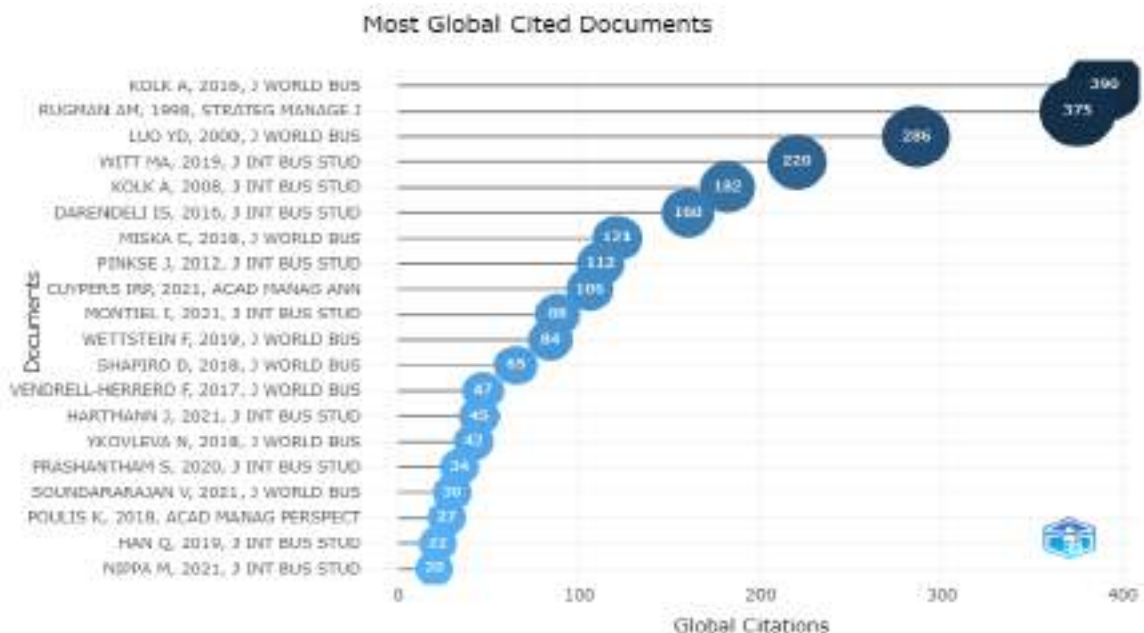


Figure 4. Most Global Cited Documents

The figure 7 shows that, among the keywords used by the authors, there are thematic links highlighted by the color of the words connected by the strands. Figure 7 mainly indicates that selecting the terms “sustainability” and “business international” forming the green and the red cluster, which are linked among each other, are also linked with the terms "MNEs" and "strategies", colored in blue cluster.

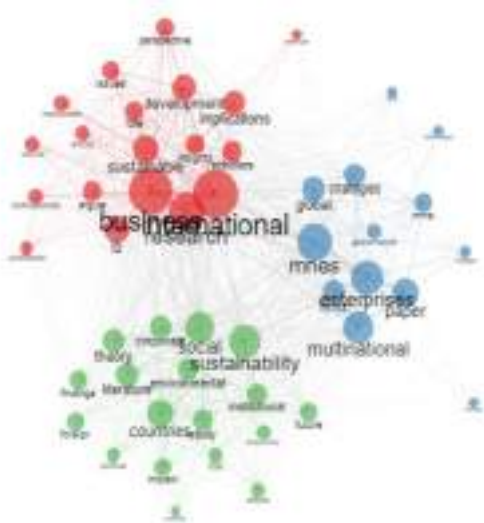


Figure 5. *Thematic map cluster*

Subsequently, upon close inspection of each individual article, 12 articles out of a total of 43 were found not to be in line with our search objective. Therefore, the analysis focused on the remaining 31 articles. After carefully reading their content, it was decided to categorise the relevant aspects, inspired by MacInnis (2011) and Hollebeek (2024), identifying the Antecedents and Consequences factors.

From the analysis of various articles, it is evident that contextual factors play a predominant role in the implementation of sustainability in international business. These factors include institutional aspects like governmental regulations and cultural influences, as well as company-specific factors such as economic conditions and knowledge. Foreign Direct Investments (FDIs) also emerge as significant elements, contributing to economic globalization and bringing benefits to both investing and receiving countries through technology transfers and market access.

| Article(s)                      | Antecedents  | Consequences  |
|---------------------------------|--|---|
| Rugman & Veerbke, 1998          | Corporate Strategies: managerial decision considering the leveraging potential of the firm's resources and the flexibility of resource commitments                           | Environmental performance (green capabilities)  |
| Kolk & Pinkse, 2008             | Climate Change   | Firm Specifics Advangates (FSA) investments (e.i. R&D)  |
| Pinkse & Kolk, 2012             | Istitutional factors (Provision of public subsidies, knowledge and infrastructure, Technology level, Degree of institutional change, political issue)                        | Climate change: Green Market Development  |
| Kolk, 2016                      | Firms specifics (type, sector, country), Foreign Direct Investmens projects  | Environmental and Social Sustainable issue (Ethic, Rights, Responsibility, Poverty)   |
| Darendeli & Hill, 2016          | Istitutional factors (political engagement, legitimacy)  | CSR project adoption  |
| Shapiro et al., 2018            | Foreign Direct Investmens, Extractive Strategic choices  | CSR Strategies  |
| Yakovleva & Vazquez-Brust, 2018 | Political strategy (state-based solution) and Cooperative strategy (stakeholder management solution)   | Environmental issue: mineral resource mining  |
| Miska et al., 2018              | Culture factors (e.i. future orientation, gender equality, uncertainty avoidance, power distance)  | Economic, social and environmenrtal sustainability practices (score)  |
| Wettstein et al., 2019          | Istitutional, Social and Economic factors (political gaps, cultural orientation, parent-subsidiary governance and value chain control, global-local context balance)         | Business Human Rights   |
| Han et al., 2019                | Owner-Managers Characteristics (foreign experience, education/training)  | CSR measures: sustainability initiative scope (entrepreneurial activities in remote, poor, or minority areas", or, "participated in forestation – dummy 1/0) and charitable donation intensity (amount donation/total equity) |
| Prashantham & Birkinshaw, 2020  | MNE–SME cooperation dynamics (entrepreneurship skills, knowledge, cooperation in Supply Chain)   | SDG achievement   |
| Lundan & Cantwell, 2020         | Istitutional factors (knowledge transfer and integration, government policy)   | Climate Change & SDGs   |
| Montiel at al., 2021            | Investments in subsdiary and in host country (Foreign Direct Investments)  | SDG implementations increaseing positive Externalities (Knowledge, Health, Wealth) and reducing negative Externalities (natural resource use, harm to social cohesion, overconsumption)                                       |
| Soundararajan et al., 2021      | Social, institutional and economics factors (institutional conditions, supplier capabilities, and cost structures)   | Sustainability mechanism adoption (Agile Sustainability Governance-ASG model)   |
| Nippa et al., 2021              | Istitutional factor (carbon pricing regulation)  | Environmental issue: transition to low-carbon economy (carbon performance, i.e. emission)   |
| Hartmann et al., 2021           | Istitutional factors (regulative and normative pressures, eesource endowments) firm specifics (environmental citizenship, renewable enery consumption, internationalization) | Environmental issue: energy transition (breadth and depth of management commitment)   |
| Cuyppers, 2021                  | Transaction Cost Theory  | CSR activity  |
| Preuss et al., 2022             | Social movement's institutional entrepreneurship   | Community Sustainability Orientation  |

|                        |  |  |
|------------------------|--|--|
| Kiefner et al., 2022   | Female representation in Top Management Team   | SDGs (score)   |
| Song, 2023             | Multistakeholder process (knowledge exploration, knowledge sharing, seeking synergy, implanting entrepreneurial mindsets)  | Environmental and Social Sustainable issue: Natural Disaster, Drugs Trafficking, Spreading diseases, minorities conflicts                                      |
| Ciulli & Kolk, 2023    | Digital Technologies (Blockchain, AI, Cloud Computing)   | Environmental (emission reduction), People (poverty and food insecurity reduction), Prosperity (innovation)  |
| Asmussen et al., 2023  | Global Value Chain (bargaining between MNE and supplier)   | CSR practices adoption   |
| Bu et al., 2023        | MNE-subsidiaries relation (transfer practice)  | CSiR practices (actions of a company are inconsistent with its commitments.)   |
| Yu et al., 2023        | Country-specific advantages-CSAs (natural resources, inexpensive labor, infrastructure, formal institutions) and Firm-specific advantages-FSAs (intellectual capital, organizational expertise, entrepreneurship, and learning capacity) | Environmental issue: reducing, replacing, and regenerating mechanism.  |
| Ioannou Serafeim, 2023 | Institutional factors (political system, education and labor system, financial system and the cultural system)   | Corporate Social Performance (CSR)   |
| Sena et al., 2023      | Environmental regulations  | Economic mechanism: reshoring subsidiaries   |
| Liu & Heugens, 2023    | MNE-NGO collaborations (n° activity score)   | Sustainability Performance (CITI score)  |
| Degbey et al., 2024    | Customer's motivation (regulatory, business opportunity and socio-environmental motives)   | Sustainable issue: emission reduction, health and safety, cybersecurity  |
| Goerzen et al., 2024   | Global Cities and MNEs characteristics   | Sustainable issue: People (migration and immigration, equity, inclusivity), Place (climate change, emission, resource consumption), Things (digital evolution) |
| Awasaka & Clegg, 2024  | Global Cities ecosystem approach (extensive non-equity collaborations and partnerships with external organizations such as customers, suppliers, universities, and competitors)  | Sustainable issue: emissions, stakeholder demands, and the SDGs.   |
| Wiessner et al., 2024  | Foreign Direct Investments   | Societal Impact (social and ecological)  |

Figure 6. *Sustainability in IB nomological network (on model proposed by Hollebeek et al., 2023)*

"Global Cities" are another area of interest in sustainability implementation, acting as hubs for economic, financial, and cultural exchanges. These cities shape global trends and attract capital, talent, and ideas from around the world. Multinational Enterprises (MNEs) are naturally the primary focus in sustainability dynamics, with studies exploring their relationships with foreign subsidiaries and specific management practices. However, there is limited research on the role of digital technologies in sustainability, despite their transformative impact on global business operations. Digital innovations offer opportunities for efficient resource management and supply chain transparency, but challenges such as data security and digital exclusion must be addressed for sustainable outcomes.

## IMPLICATIONS

This systematic review offers contributions to the literature at the intersection between International Business and Sustainability. First, to the best of our knowledge this study is the first attempt to systematically review the extant literature on the two above concepts. Second, by indicating the trends in theory and definition, adopted methodology, and the role of the concepts in the model specification within the extant body of research, it enables researchers and international managers a comprehensive overview of the topic. Third, drawing from the findings, it sheds light on the knowledge gaps as well as problems/issues/inconsistencies in the respective literature that require particular attention and offers several future research avenues accordingly.

In addition to its contributions to the related body of research, this systematic review also provides useful insights for practitioners. Firstly, antecedent factors such as the promotion of institutional policies and regulations encourage companies to adopt sustainable practices. The introduction of incentives for the adoption of "green technologies" can lead to a reduction in gas emissions and more responsible management of natural resources. Secondly, factors such as managerial experience and the capacity to make targeted investments can influence sustainability practices, especially in less developed countries hosting international operators, also supporting the social development of local communities and the sustainable exploitation of territorial resources. Furthermore, cooperation among economic operators (e.g., between MNEs and subsidiaries or SMEs) can improve entrepreneurial skills and facilitate the adoption of sustainable practices. Collaboration throughout the supply chain and participation in processes of exploration and knowledge sharing is certainly useful for developing innovative solutions for sustainability. Finally, the use of 4.0 technologies (e.g., Blockchain, AI, and Cloud Computing) can collectively promote sustainability by ensuring transparency and traceability in supply chains, optimizing resource use and reducing waste, and decreasing the carbon footprint through the centralization of IT infrastructures.

## CONCLUSIONS AND LIMITATIONS

This study provides an overview of the relationship between sustainability and international business development, presenting a structured methodology and conceptual framework. Antecedent factors influencing sustainability implementation include institutional, firm-specific, economic, managerial, relational, and technological factors. These encompass regulatory pressures, company types, economic considerations, management characteristics, relationships between actors, and technological advancements such as AI and Industry 4.0.

This study highlights the importance of sustainability in international business and offers insights into how companies and institutions can address global challenges through sustainable practices and collaborative efforts.

We are aware of the many limitations of the study as it is a work in progress. Firstly, the sampled articles could be expanded to include reference articles from journals categorized in the Academic Journal Guide and classified with a ranking value of 1-2-3, not only focusing on those ranked 4 and 4\*. Regarding the research methodology, the query should certainly encompass additional terms related to those used and should also be investigated in further research software (e.g., Scopus) to expand the universe of articles obtained. This could also benefit the rigor of the methodology used, as it could be implemented through the use of specific approaches such as the PRISMA method. These highlighted limitations can certainly serve as starting points for further development of the present work, and its evolution towards different perspectives investigating specific aspects of the relationship between sustainability and IB, starting from both specific antecedent and consequent factors.

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## ESG PERFORMANCE AND FIRM VALUE: EVIDENCE FROM EU LISTED FIRMS

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### ABSTRACT

The Environmental, Social and Governance (ESG) issues topic is currently the most debated topic among academics due to the Agenda 2030 of United Nations. Firms are complying with this agenda by disclosing non-financial information and issuing sustainability and CSR reports. We investigate how this information, the ESG performance affects firm value. We focus on listed firms of EU countries and extract the panel data from Bloomberg database from 2012 to 2021. Our final sample comprises 976 firms from 26 EU countries belonging to 11 industry sectors. We apply ordinary least squares technique to analyse the data. The results show that ESG performance positively and significantly influences firm value. It represents that ESG issues are relevant with respect to stakeholders' concern and addressing such issues increases firm value. This study provides important implications for practitioners and stakeholders.

*Keywords: ESG issues, stakeholders' concerns, non-financial disclosure, ESG performance, firm value.*

### INTRODUCTION

The United Nations' Environment Programme (UNEP) coined the word "ESG" for the first time in 2004. Since then, it has gained popularity among investment communities connected to socially responsible investing (Eccles and Viviers, 2011; Fulton et al., 2012; Lapinskien and Tvaronaviiien, 2012). ESG is a word that researchers are using more frequently to describe a wide range of company activities (Derwall, 2007). ESG performance or non-financial disclosure considered important for the companies to gain competitive advantage (Irawan & Okimoto, 2021) disclosing their non-financial activities as such activities becomes beneficial for different stakeholders (Lee et al., 2013), which ultimately enhance the firm value (Okafor et al., 2021).

The UN's directive for sustainable reporting also directs the firms to disclose their ESG performance for a sustainable working environment. The SDGs provide a ground to cognize the significance of

these notions & purposes and firms & organizations take initiatives for the compliance of these goals. Since last years, it is witnessed in the extant literature for the need of non-financial reporting and aligning it with reporting process (Christensen et. al., 2017). ESG covers the firm's contribution towards the environmental, social and governance issues and give insights that how firms respond to these challenges by integrating ESG matters in their strategy. Firms being ranked on the basis of their initiatives and contribution for the betterment of three pillars of ESG - Environment, Social and Governance; considered reliable for the different stakeholders by participating in sustainable activities and providing relevant sustainable information.

ESG fundamentally examines and integrates the performance of a company's environmental, social, and corporate governance activities. The environmental performance of a company shows how hard it works to cut emissions and resource use. According to a company's social performance, it respects community relations, employment standards, product responsibility, and human rights. Lastly, a company's corporate governance performance reveals the duties and rights of the management of a company (governance structure). ESG ranking helps organizations to attract not only investors but also helps them to become market leader by integrating important ESG issues; whereas many firms adopt non-financial disclosure in order to mitigate the risk of legitimacy (Muserra et. al., 2019). Many studies examined the impact of ESG performance on firm value or firm performance. However, results being inferred by those studies were inconclusive.

We investigate the impact of ESG performance on firm value considering the listed firms of EU countries. We find that ESG performance has a positive impact on firm value. Moreover, in case of individual ESG pillar, including environmental disclosure score, social disclosure score and governance disclosure score, all of them positively influence firm value. The robustness test confirms the main findings of the study.

This study significantly contributes to the literature in several ways. First, this study contributes to the literature by providing the empirical evidence for combined ESG and all the three pillars of ESG individually. Further, this study provide evidence based on listed firm of EU member states.

The rest of the paper is structured as follows. Section 2 provides review of the literature and hypothesis development. Section 3 discusses the research methodology, Section 4 presents empirical analysis and discussion, and Section 5 concludes the paper.

## REVIEW OF THE LITERATURE

### *ESG Performance and Firm Value*

The scholars investigated non-financial reporting by focusing, agency, institutional, legitimacy and stakeholder theories. Existing literature revealed that scholars mostly used agency theory and stakeholders' theory to examine the impact of ESG performance on firm value. The stakeholder theory provides the basic link among firm and different stakeholders involved around it. Firms by aligning ESG initiatives with their business strategy not only increase the shareholder value because of the firm's improved cash flow levels but also enhanced shareholder utility for owning shares in a sustainable firm (Gillan et al., 2010a, Gillan et al., 2010b). Shareholders could analyze the environmental and social repercussions of ESG operations as well as the cash flows generated. This will benefit the shareholders by investing or owning the firm responding actively to ESG issues. Integrating and participating in ESG activities increase the firms' market performance, internal stakeholders e.g., happy and confident employees more motivated to work; whereas satisfied suppliers offer discounts which leads to better reputation of the firm.

Agency theory has few limitations as it does not cover environmental and social information required by stakeholders and it focused on investors and financial considerations only (Gray, 2009 and Gray, 2014). Taking measures for ESG activities also create agency problem between managers and shareholders because these measures not only decrease the cash flow and value of the firm but also considered unfavorable by the shareholders. Managers by investing in ESG activities struggles to enhance the firm's reputation at the expense of shareholders (Barnea & Rubin, 2010) but also tries to get personal benefits by spending firms' resources (Brown et. al., 2006). Firms also invest in the social activities to compensate the inadequacies of ESG activities or to safeguard itself from the ESG risk in response to information asymmetry between managers and stakeholders (Duque & Aguilera, 2021). Accordingly, it supports the argument that ESG performance have negative impact on firm value.

Many studies provide country-specific impact of ESG on firm value and profitability. A positive impact of ESG has found on firm value and profitability for German firms (Velte, 2017) along with significant impact of governance on firm performance. Cross industry study by considering China's energy sector, Zhao et. al. (2018) found positive impact of ESG on financial performance. Another study to examine the impact of ESG provide positive effect on better financial results (Dalal and Thaker, 2019).

Few studies conducted on multiple countries also provide the same relationship between ESG and firm financial performance. In a study conducted on a large multiple countries provide evidence of positive impact of ESG activities on firm financial performance (Xie et al., 2019). Similarly, using more than 4500 firms a study revealed that three pillars of ESG, environment, social and Governance has been useful for raising market value of the firms (Bhaskaran et al., 2020). In European perspective, ESG provide positive impact on firm financial performance (De Lucia et al., 2020).

Another strand of literature contradicts these arguments and provide negative link between ESG performance and firm value. Scholars in view of agency theory argue that management engage in ESG activities on the expense of shareholders thus utilizing the scarce resources of the firms considered valuable in maximizing the wealth of shareholders hence decrease the firm value (Di Tommaso & Thornton, 2020).

Despite of these contradictory arguments and evidence, sustainability is considered to be the utmost importance for the researchers specifically the increasing demand and pressure from the stakeholders enforce the organizations to disclose their non-financial activities. Moreover, regulators and rating published by different agencies also have impact on the firm's reputation. Considering these arguments this study posits the following main hypothesis:

H1: ESG performance have a positive impact on firm value.

#### *Impact of Individual ESG Pillar on Firm Value*

##### *Environmental Pillar and Firm Value*

One of the most researched pillars of ESG considered to be the Environmental factor. The research stream started from the environmental impact resulted in development of regulators and standard setters. Later, introduction of ESG ratings bring awareness among society and stakeholders to enforce the enterprises to integrate sustainability into their business activities and operations. Several studies revealed positive impact of environmental disclosure on firm value (Cormier and Magnan, 1997; Aerts, Cormier and Magnan, 2008; Clarkson et al., 2013 and Plumlee et al., 2015). This research further segregated into two thoughts; first the perspective of competitive advantage reported that firms' environmental efforts bring transparency which results in increase towards the financial returns of the investors whereas cost-oriented perspective stress on the capital loss by participating in environmental activities (Hassel, Nilsson and Nyquist, 2005). Scholars also contributed that firms by participating in environmental causes and contributing towards community not only improve firms;

perception but also improve their firm performance (Buallay et al., 2020; Buallay, El Khoury, & Hamdan, 2021).

Alternately some studies also reported negative effect of environmental factor with the argument to investigate the extent to which incremental investments continue to be profitable given that environmental investment could become financially burdensome (Brammer et al., 2006).

H2: Environmental disclosure score positively influences firm value.

#### *Social Pillar and Firm Value*

Social interaction provides a platform to the firms to assess the feedback of different stakeholders to better manage their social investments. Keeping good social relations among internal and external stakeholders benefit firms to increase intangible value - linked with better market returns (Hillman and Keim, 2001) and better relations with such stakeholders perceived as good reputation of firm. Firms' engagement in socially responsible behavior respond in improved firm value (Buallay, 2019 and Shen et al., 2016).

Communicating with consumer, considered an important element for the firms to engage them in their business operations by valuing their feedback. Customer satisfaction effect market value of the firm; the lower the degree of client satisfaction the smaller the impact of CSR on market value (Luo and Bhattacharya, 2006).

Contrarily, firm value was positively impacted by employee motivation, but negatively by product responsibility and community involvement (Esteban-Sanchez et al., 2017). This study by considering the Socially Responsible Investment point posits that social disclosure positively impacted the firm value.

H3: Social disclosure score positively influences firm value.

#### *Governance Pillar and Firm Value*

After the global financial crisis of 2007–2009, the corporate governance landscape underwent a significant change. Policymakers and regulators have established various internal and external corporate governance measures over the time to improve the quality of corporate governance, resultantly, the confidence in corporate sustainable performance and reporting has increased by the stakeholders and investors. The literature focused on the association among governance and firm

value reported that good corporate governance linked with high firm value (Brown and Caylor, 2006; Cremers and Nair, 2005; Gompers, Ishii and Metrick, 2003). Firm value positively impacted by both internal and external governance mechanisms (Jo and Harjoto, 2012 and Ammann et al., 2011).

Another aspect regarding the adoption of governance disclosure that firms by increasing governance practices not only improves firm value but also increase their reputation, mitigating the internal conflicts and bolstering the regulations (Zehri & Zgarni, 2020).

Reviewing such supporting arguments in favor of positive association between governance disclosure and firm value this study posits the following hypothesis:

H4: Governance disclosure score positively influences firm value.

## RESEARCH METHODOLOGY

We examine the impact of ESG performance on firm value. For this purpose, we consider a sample of listed firms in EU member states. We extract the panel data from Bloomberg database from 2012 to 2021 on annual basis. The EU currently has 27 member states and at the time of data collection there were 5327 listed EU firms. However, the data were not available for most of the firms. Further, we only consider firms with at least three years of the data. Therefore, our final sample is based on 976 listed firms of 26 EU countries. The detailed information about the firms belonging to each country is presented in Table 1. We further classify our sample firms with respect to industry sectors based on Global Industry Classification Standard (GICS). There are 11 industry sectors in GICS, and the sample firms cover all those sectors, as shown in Table 2.

|    | Country        | Number of firms |
|----|----------------|-----------------|
| 1  | Austria        | 36              |
| 2  | Belgium        | 52              |
| 3  | Bulgaria       | 1               |
| 4  | Croatia        | 3               |
| 5  | Cyprus         | 2               |
| 6  | Czech Republic | 1               |
| 7  | Denmark        | 51              |
| 8  | Estonia        | 6               |
| 9  | Finland        | 70              |
| 10 | France         | 153             |
| 11 | Germany        | 116             |
| 12 | Greece         | 26              |



|    |             |     |
|----|-------------|-----|
| 13 | Hungary     | 5   |
| 14 | Ireland     | 9   |
| 15 | Italy       | 79  |
| 16 | Lithuania   | 4   |
| 17 | Luxembourg  | 9   |
| 18 | Malta       | 11  |
| 19 | Netherlands | 49  |
| 20 | Poland      | 15  |
| 21 | Portugal    | 20  |
| 22 | Romania     | 11  |
| 23 | Slovakia    | 2   |
| 24 | Slovenia    | 6   |
| 25 | Spain       | 85  |
| 26 | Sweden      | 154 |
|    | Total       | 976 |

Table 1. *Sample firms with respect to countries*

|    | GICS                   | Number of firms |
|----|------------------------|-----------------|
| 1  | Communication Services | 65              |
| 2  | Consumer Discretionary | 134             |
| 3  | Consumer Staples       | 62              |
| 4  | Energy                 | 29              |
| 5  | Financials             | 125             |
| 6  | Health Care            | 74              |
| 7  | Industrials            | 235             |
| 8  | Information Technology | 81              |
| 9  | Materials              | 71              |
| 10 | Real Estate            | 55              |
| 11 | Utilities              | 45              |
|    | Total                  | 976             |

Note: GICS is the Global Industry Classification Standard.

Table 2. *Sample firms with respect to industry sector*

Table 3 presents the definitions of the study variables. The main variables are ESG performance and firm value. For ESG performance, we consider ESG disclosure score available in Bloomberg database. The Bloomberg uses number of sources to collect the company-reported ESG data including “corporate social responsibility (CSR) or sustainability reports, annual reports and websites, other public sources, as well as through company direct contact” (Coluccia et al., 2020). The ESG score in Bloomberg database is based on 120 environmental, social and governance indicators (Coluccia et al.,

2020). The score ranges from 0 to 100 where 0 equals that companies have not disclosed any of the ESG data and 100 equals that companies disclose every data point for ESG. Additionally, we also use each component of ESG score as a measure ESG performance such as environmental disclosure score (EDS), social disclosure score (SDS) and governance disclosure score (GDS).

| Variable                       | Notation | Measure   | Source   |
|--------------------------------|----------|---|--|
| Firm Value                     |          |   |  |
| Tobin's q                      | TQ       | Market value of equity plus total assets minus the book value of equity, entire divided by total assets | (Giannopoulos et al., 2022; Tahmid et al., 2022; Wu & Chang, 2022) |
| ESG performance                |          |   |  |
| ESG disclosure score           | ESGDS    | Environmental, social and governance disclosure score (0 to 100)  | (Aydoğmuş et al., 2022)  |
| Environmental disclosure score | EDS      | Environmental disclosure score (0 to 100)   | (Aydoğmuş et al., 2022; Wu & Chang, 2022)                          |
| Social disclosure score        | SDS      | Social disclosure score (0 to 100)  | (Aydoğmuş et al., 2022; Wu & Chang, 2022)                          |
| Governance disclosure score    | GDS      | Governance disclosure score (0 to 100)  | (Aydoğmuş et al., 2022; Wu & Chang, 2022)                          |
| Corporate governance           |          |   |  |
| Board size                     | BS       | The total number of directors on the board  | (Cooper & Uzun, 2022)  |
| Women on the board             | WOB      | The number of women directors on the board as a percentage of board size                                | (Cooper & Uzun, 2022)  |
| Board independence             | BI       | The number of independent directors on the board as a percentage of board size                          | (Atif et al., 2021)  |
| CEO duality                    | CEOD     | A dummy variable, equals one if CEO and chairman of the board are the same person, zero otherwise       | (Cooper & Uzun, 2022)  |
| Firm characteristics           |          |   |  |
| Return on assets               | ROA      | Net income as a percentage of total assets  | (Cooper & Uzun, 2022; Fatemi et al., 2018; Tahmid et al., 2022)    |
| Cash reserves                  | CR       | Cash and cash equivalents divided by net assets   | (Atif et al., 2021)  |
| Firm leverage                  | LEV      | Total debt divided by total assets  | (Aydoğmuş et al., 2022; Cooper & Uzun, 2022; Tahmid et al., 2022)  |
| Firm size                      | SIZE     | Natural log of total assets   | (Fatemi et al., 2018; Tahmid et al., 2022)                         |

Table 3. *Variables definitions*

We measure firm value by using the Tobin's Q computed as market value of equity plus total assets minus the book value of equity, entire divided by total assets. Further we use several control variables including corporate governance variables and firm characteristic. Corporate governance variables

include board size, board gender diversity, board independence and CEO duality. We use return on assets, cash reserves, firm leverage, and size as firm specific variables.

We use the following regression equations to examine the impact of ESG performance on firm value.

$$(TQ)_{i,t} = \beta_0 + \beta_1(ESGDS)_{i,t} + \beta_2(CV)_{i,t} + \beta_3\Sigma(CE)_{i,t} + \beta_4\Sigma(IE)_i + \beta_5 \Sigma(YE)_t + \varepsilon_{i,t} \quad (1)$$

$$(TQ)_{i,t} = \beta_0 + \beta_1(EDS)_{i,t} + \beta_2(CV)_{i,t} + \beta_3\Sigma(CE)_{i,t} + \beta_4\Sigma(IE)_i + \beta_5 \Sigma(YE)_t + \varepsilon_{i,t} \quad (2)$$

$$(TQ)_{i,t} = \beta_0 + \beta_1(SDS)_{i,t} + \beta_2(CV)_{i,t} + \beta_3\Sigma(CE)_{i,t} + \beta_4\Sigma(IE)_i + \beta_5 \Sigma(YE)_t + \varepsilon_{i,t} \quad (3)$$

$$(TQ)_{i,t} = \beta_0 + \beta_1(GDS)_{i,t} + \beta_2(CV)_{i,t} + \beta_3\Sigma(CE)_{i,t} + \beta_4\Sigma(IE)_i + \beta_5 \Sigma(YE)_t + \varepsilon_{i,t} \quad (4)$$

where TQ is a measure of firm value, ESGDS, EDS, SDS, GDS are measures of ESG performance. CV represents control variables, CE is country effects, IE is industry effects, YE is year effects,  $\beta_0$  is a constant,  $\Sigma$  is the summation,  $\varepsilon$  is the error term,  $i$  is the firm and  $t$  is the year.

We use ordinary least squares (OLS) regression as a baseline method to estimate the empirical models. We control for country, industry, and year effects. Further, we use robust standard errors to control for heteroskedasticity and within-firm correlation in the residuals (Petersen, 2009). In the robustness analysis, we use the two-step dynamic panel data model, the generalized method of moments (GMM). This technique is able to address measurement errors, omitted variable bias, unobserved country heterogeneity (Bond et al., 2001) and potential endogeneity (Blundell & Bond, 1998; Bond et al., 2001). In GMM estimation, we also include country, industry and year dummies and use robust standard errors. In addition, we run post-estimation test to check for autocorrelation by performing Arellano–Bond test.

## EMPIRICAL ANALYSIS AND DISCUSSION

Table 4 presents the descriptive statistics for the study variables. The mean value of TQ is 1.36 which indicates that, on average, the EU firms have better firm value representing that their stock is overvalued. Further, the average value of ESGDS is 43.40, depicting that on average, EU firms are disclosing almost 43% data related to ESG. Further, among each component of ESG, the EU firms on average disclose higher Governance (75.53) related data than environmental (29.02) and social (25.84) data. Moreover, the average board size of EU firms is 10 with on average 26.27% females on the boards. The board independence of EU firms is on average 58.78%. Further, the mean value of CEO duality is 0.16, representing lower CEO duality in EU firms. Moreover, the mean values for return on

assets, cash reserves, firm leverage and firm size are 4.00%, 0.31, 0.25, 22.59, respectively. Further, there is no extreme volatility for any of the study variable as per the standard deviation values.

| Variable | N     | Mean    | SD      | Minimum  | Maximum  |
|----------|-------|---------|---------|----------|----------|
| TQ       | 6,360 | 1.3584  | 0.4293  | 0.6607   | 2.0082   |
| ESGDS    | 6,360 | 43.3978 | 13.1434 | 0.0000   | 80.8168  |
| EDS      | 6,360 | 29.0171 | 19.4863 | 0.0000   | 82.7847  |
| SDS      | 6,360 | 25.8421 | 13.3933 | 0.0000   | 77.1930  |
| GDS      | 6,360 | 75.5349 | 14.0299 | 0.0000   | 100.0000 |
| BS       | 6,360 | 10.2343 | 3.8563  | 3.0000   | 25.0000  |
| WOB      | 6,360 | 26.2700 | 14.3971 | 0.0000   | 75.0000  |
| BI       | 6,360 | 58.7765 | 23.9480 | 0.0000   | 100.0000 |
| CEOD     | 6,360 | 0.1560  | 0.3629  | 0.0000   | 1.0000   |
| ROA      | 6,360 | 4.0016  | 6.7855  | -19.9022 | 30.7873  |
| CR       | 6,360 | 0.3104  | 0.3640  | 0.0011   | 2.1156   |
| LEV      | 6,360 | 0.2551  | 0.1591  | 0.0000   | 0.8579   |
| SIZE     | 6,360 | 22.5884 | 2.1244  | 16.6909  | 30.7810  |

Notes: N is the number of observations. SD is standard deviation. Variables definitions are present in Table 3.

Table 4. *Descriptive statistics*

Table 5 shows the correlation matrix, and the results indicate that there is statistically significant relationship between firm value and ESG performance measures along with all the control variables. The Table 5 further presents the multicollinearity diagnostic test, and the results show no issue of multicollinearity between the explanatory variables as the values of variance inflation factor (VIF) are less than 5.

Table 6 presents the OLS regression results for the impact of ESG performance on firm value. Column (1) indicates the impact of ESG disclosure score on the firm value. Column (2)-(4) represents the impact of each component of ESG on firm value, respectively. The results indicate that ESG disclosure score positively and significantly impacts Tobin's Q, indicating that higher ESG performance leads to higher firm value. Thus, these results support hypothesis 1 of the study. Similarly, in case of each component of ESG, such as environmental disclosure score, social disclosure score and governance disclosure score, the results depict positive and significant impact on Tobin's Q. These results indicate that each component of ESG also leads higher firm value, thus supporting hypotheses 2, 3 and 4 of the study. These results are consistent with the earlier literature (Buallay, 2019; Jo and Harjoto, 2012; Plumlee et al., 2015; Velte, 2017)

These findings represent that ESG performance is quite relevant for firms as it increases the firm value. It shows that firm's consideration of stakeholders' expectations with respect to sustainability issues builds stakeholders' trust. The protection of stakeholders' interests allows firms to achieve goals. Our findings reveal that each component of ESG is important with respect to firm value. It represents that stakeholders give importance to environmental issues, social issues, and governance issues. Therefore, it is quite relevant for firms to address ESG issues to meet stakeholder's expectations and protect their interests. The more addressing of ESG issues by firms will enhance the firm value. Firm value is important for firms as higher firm value usually attracts investors and creditors. Thus, it will result in higher resources for firms and with that firms can perform better both financially and non-financially and contribute to the sustainable world.

|    | Variable | 1      | 2      | 3      | 4      | 5      | 6      | 7     | 8      | 9      | 10     | 11    | 12    | 13   |
|----|----------|--------|--------|--------|--------|--------|--------|-------|--------|--------|--------|-------|-------|------|
| 1  | TQ       | 1      |        |        |        |        |        |       |        |        |        |       |       |      |
| 2  | ESGDS    | -0.049 | 1      |        |        |        |        |       |        |        |        |       |       |      |
| 3  | EDS      | -0.065 | 0.904  | 1      |        |        |        |       |        |        |        |       |       |      |
| 4  | SDS      | -0.071 | 0.848  | 0.745  | 1      |        |        |       |        |        |        |       |       |      |
| 5  | GDS      | 0.022  | 0.721  | 0.427  | 0.413  | 1      |        |       |        |        |        |       |       |      |
| 6  | BS       | -0.206 | 0.391  | 0.360  | 0.311  | 0.284  | 1      |       |        |        |        |       |       |      |
| 7  | WOB      | 0.074  | 0.330  | 0.205  | 0.245  | 0.404  | 0.079  | 1     |        |        |        |       |       |      |
| 8  | BI       | 0.094  | 0.046  | -0.008 | 0.020  | 0.121  | -0.288 | 0.102 | 1      |        |        |       |       |      |
| 9  | CEOD     | -0.046 | 0.133  | 0.108  | 0.088  | 0.135  | 0.174  | 0.046 | -0.213 | 1      |        |       |       |      |
| 10 | ROA      | 0.418  | -0.022 | -0.013 | -0.033 | -0.015 | -0.109 | 0.042 | -0.004 | -0.017 | 1      |       |       |      |
| 11 | CR       | -0.031 | 0.015  | -0.012 | 0.025  | 0.033  | 0.073  | 0.008 | 0.005  | 0.027  | -0.156 | 1     |       |      |
| 12 | LEV      | -0.187 | 0.108  | 0.113  | 0.090  | 0.061  | 0.072  | 0.009 | -0.021 | 0.030  | -0.248 | 0.031 | 1     |      |
| 13 | SIZE     | -0.258 | 0.397  | 0.336  | 0.323  | 0.315  | 0.488  | 0.182 | -0.019 | 0.017  | -0.066 | 0.110 | 0.069 | 1    |
|    | VIF (1)  | -      | 1.44   | -      | -      | -      | 1.62   | 1.14  | 1.19   | 1.08   | 1.11   | 1.04  | 1.08  | 1.45 |

|  |         |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|  | VIF (2) | -     | -     | 1.26  | -     | -     | 1.60  | 1.08  | 1.17  | 1.08  | 1.11  | 1.04  | 1.08  | 1.43  |
|  | VIF (3) | -     | -     | -     | 1.22  | -     | 1.56  | 1.10  | 1.17  | 1.08  | 1.10  | 1.04  | 1.07  | 1.43  |
|  | VIF (4) | -     | -     | -     | -     | 1.39  | 1.57  | 1.21  | 1.21  | 1.09  | 1.10  | 1.04  | 1.07  | 1.42  |
|  | N       | 6,360 | 6,360 | 6,360 | 6,360 | 6,360 | 6,360 | 6,360 | 6,360 | 6,360 | 6,360 | 6,360 | 6,360 | 6,360 |

Notes: VIF is the variance inflation factor. VIF (1) includes ESGDS variable and VIF (2)-(4) include each component of ESGDS individually. N is the number of observations. \*\*\*, \*\*, and \* represent statistical significance at 1%, 5% and 10 levels, respectively. Variables definitions are present in Table 3.

Table 5. Correlation matrix and multicollinearity diagnostic test

|                  | (1)                      | (2)                      | (3)                      | (4)                      |
|------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Variable         | TQ                       |                          |                          |                          |
| ESGDS            | 0.0036***<br>(7.4200)    | -                        | -                        | -                        |
| EDS              | -                        | 0.0012***<br>(4.1300)    | -                        | -                        |
| SDS              | -                        | -                        | 0.0020***<br>(4.9500)    | -                        |
| GDS              | -                        | -                        | -                        | 0.0033***<br>(7.9800)    |
| BS               | 0.0003<br>(0.1800)       | 0.0010<br>(0.6600)       | 0.0013<br>(0.8700)       | 0.0006<br>(0.3900)       |
| WOB              | 0.0010***<br>(2.6600)    | 0.0013***<br>(3.2900)    | 0.0013***<br>(3.2300)    | 0.0010***<br>(2.6900)    |
| BI               | 0.0007***<br>(2.9800)    | 0.0008***<br>(3.5600)    | 0.0007***<br>(3.3700)    | 0.0005**<br>(2.4200)     |
| CEOD             | -0.0049<br>(-0.3700)     | -0.0064<br>(-0.4900)     | -0.0064<br>(-0.4900)     | -0.0052<br>(-0.4000)     |
| ROA              | 0.0206***<br>(23.1500)   | 0.0207***<br>(23.1700)   | 0.0208***<br>(23.2100)   | 0.0206***<br>(23.3400)   |
| CR               | 0.0886***<br>(7.7700)    | 0.0882***<br>(7.7600)    | 0.0897***<br>(7.8900)    | 0.0854***<br>(7.5500)    |
| LEV              | -0.0442<br>(-1.4300)     | -0.0511<br>(-1.6400)     | -0.0503<br>(-1.6200)     | -0.0557*<br>(-1.8100)    |
| SIZE             | -0.0445***<br>(-12.1000) | -0.0375***<br>(-10.4700) | -0.0381***<br>(-10.8600) | -0.0397***<br>(-11.8800) |
| Constant         | 1.8781***<br>(25.2600)   | 1.8282***<br>(24.0100)   | 1.8165***<br>(24.5600)   | 1.7125***<br>(24.2000)   |
| Country effects  | Yes                      | Yes                      | Yes                      | Yes                      |
| Industry effects | Yes                      | Yes                      | Yes                      | Yes                      |
| Year effects     | Yes                      | Yes                      | Yes                      | Yes                      |
| N                | 6,360                    | 6,360                    | 6,360                    | 6,360                    |
| R-squared        | 0.4679                   | 0.4645                   | 0.4651                   | 0.4689                   |
| F-statistic      | 151.44***                | 150.71***                | 150.86***                | 149.47***                |

Notes: Table 6 presents the OLS regression results. Column (1) shows the impact of ESG performance (ESGDS) on firm value (TQ). Column (2)-(4) present the influence of ESG performance (each component of ESGDS, such as EDS, SDS, and GDS) on firm value (TQ) individually. Country fixed effects, industry fixed effects and year fixed effects are included in all regressions. N is the number of observations. \*\*\*, \*\*, and \* represent statistical significance at 1%, 5% and 10 levels, respectively. Variables definitions are present in Table 3.

Table 6. OLS regression results

The results with respect to control variables present women on board and board independence has a positive impact on firm value. It shows that higher percentage of female and independent directors on the board result in higher firm value. Further, return on assets positively and significantly influence firm value. It indicates that higher profitability leads to higher firm value. Moreover, firm leverage and firm size negatively influence firm values. It represents that higher degree of leverage decreases firm value. Further, the results indicate that smaller firms have higher firm value than the larger firms.

Table 7 presents the GMM regression results to check the robustness of the main analysis. Interestingly, the results indicate that ESG performance positively affects firm value. These results are consistent for combined ESG disclosure score and for each component including environmental disclosure score, social disclosure score and governance disclosure score. Thus, we can conclude that our analysis is robust.

|                  | (1)                    | (2)                    | (3)                     | (4)                    |
|------------------|------------------------|------------------------|-------------------------|------------------------|
| Variable         | TQ                     |                        |                         |                        |
| TQ(t-1)          | 0.6850***<br>(14.3000) | 0.6909***<br>(14.1300) | 0.6870***<br>(14.1600)  | 0.6733***<br>(14.0800) |
| TQ(t-2)          | -0.0608*<br>(-1.7200)  | -0.0575<br>(-1.6000)   | -0.0677*<br>(-1.9000)   | -0.0622*<br>(-1.7300)  |
| ESGDS            | 0.0036***<br>(3.5900)  | -                      | -                       | -                      |
| EDS              | -                      | 0.0019***<br>(3.6800)  | -                       | -                      |
| SDS              | -                      | -                      | 0.0031***<br>(3.8500)   | -                      |
| GDS              | -                      | -                      | -                       | 0.0021*<br>(1.8600)    |
| BS               | 0.0037<br>(0.6800)     | 0.0034<br>(0.6400)     | 0.0034<br>(0.6600)      | 0.0037<br>(0.6700)     |
| WOB              | 0.0020***<br>(2.7700)  | 0.0026***<br>(3.8700)  | 0.0021***<br>(3.0500)   | 0.0025***<br>(3.3300)  |
| BI               | -0.0002<br>(-0.2800)   | -0.0001<br>(-0.1400)   | -0.0002<br>(-0.2100)    | -0.0002<br>(-0.2000)   |
| CEOD             | 0.0083<br>(0.2400)     | 0.0025<br>(0.0700)     | 0.0086<br>(0.2500)      | 0.0080<br>(0.2300)     |
| ROA              | 0.0016<br>(0.8500)     | 0.0015<br>(0.7900)     | 0.0016<br>(0.8700)      | 0.0013<br>(0.7100)     |
| CR               | 0.0699**<br>(2.4700)   | 0.0732**<br>(2.5200)   | 0.0662**<br>(2.3500)    | 0.0705**<br>(2.4500)   |
| LEV              | -0.0604<br>(-0.4100)   | -0.0929<br>(-0.6200)   | -0.0397<br>(-0.2600)    | -0.1074<br>(-0.7000)   |
| SIZE             | -0.0708**<br>(-2.3000) | -0.0574*<br>(-1.8800)  | -0.0714***<br>(-2.8400) | -0.0524<br>(-1.4300)   |
| Constant         | 1.8915***<br>(2.8400)  | 1.6654**<br>(2.5100)   | 1.9804***<br>(3.6000)   | 1.4870*<br>(1.9100)    |
| Country effects  | Yes                    | Yes                    | Yes                     | Yes                    |
| Industry effects | Yes                    | Yes                    | Yes                     | Yes                    |

| Year effects     | Yes       | Yes       | Yes       | Yes       |
|------------------|-----------|-----------|-----------|-----------|
| N                | 3,261     | 3,261     | 3,261     | 3,261     |
| Wald Chi-Squared | 249.30*** | 239.04*** | 255.05*** | 238.74*** |
| AR (2)           | 0.6260    | 0.6734    | 0.7990    | 0.6326    |
| p-value          | 0.5313    | 0.5007    | 0.4243    | 0.5270    |

Notes: Table 7 presents the GMM regression results. Column (1) shows the impact of ESG performance (ESGDS) on firm value (TQ). Column (2)-(4) present the influence of ESG performance (each component of ESGDS, such as EDS, SDS, and GDS) on firm value (TQ) individually. Country fixed effects, industry fixed effects and year fixed effects are included in all regressions. N is the number of observations. \*\*\*, \*\*, and \* represent statistical significance at 1%, 5% and 10 levels, respectively. Variables definitions are present in Table 3.

Table 7. *GMM regression results – robustness test*

## CONCLUSION

The contemporary world is experience increasing challenges with respect to sustainability issues. Therefore, United Nations has implemented the Agenda 2030 to cope up with those challenges. In response, firms disclose non-financial information along with financial information to show their efforts in addressing ESG issues to meet stakeholders' expectations. Thus, we investigate how ESG performance affects firm value. For this purpose, we consider a sample of listed EU firms, and the results indicate that higher ESG performance enhances firm value. Interestingly, we find that all the environmental issues, social issues and governance issues are important in increasing firm value.

This study provides important implications for practitioners and stakeholders. The findings suggest that firm's consideration of ESG issues builds the stakeholders trust and thus, it enables firms to achieve their goals efficiently and have higher firm value. Therefore, firm management should pay attention to stakeholders' concerns regarding ESG issues. This requires firms to address ESG issues so that stakeholders' interests could be protected. Moreover, the findings suggest that environmental issues, social issues, and governance issues, all of them are important. Thus, it is suggested that firm management should pay attention to all of them to play their role in achieving a sustainable world. The study findings also provide implications for investors and creditors. The higher firm value can be a strong motivation for investors to invest and for creditors to lend to such firms. Therefore, firms can gain more resources by addressing ESG issues that increases firm value. Those resources could help firms to perform better both financially and non-financially.

Although this study focuses on a sample of EU firms. However, we consider only listed firms to examine the impact of ESG performance on firm value. Therefore, further research could be conducted



by using the non-listed firms. Moreover, future studies could conduct a comparative analysis between regions to further deepen the understanding between the investigated relationship.

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## INVESTIGATING THE RELATIONSHIPS AMONG THE EFQM MODEL 2020 CRITERIA THROUGH REGRESSION ANALYSIS

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### ABSTRACT

The purpose of this study is to explore the relationships between the criteria of the new European Foundation for Quality Management (EFQM) Model 2020 in the context of public administration services in Greece. The study reports the results of a pilot study using a structured questionnaire based on the EFQM 2020 self-assessment questionnaire and the model's logic, translated from English into Greek using the forward-backward method. Two focus groups were conducted to check the face validity of the questionnaire. Subsequently, the questionnaire was administered to 50 managers of administrative services in the Greek public sector. After data collection, the study conducts reliability tests, applies descriptive statistics for the demographics, and path analysis using regression analysis to investigate the relationships between the model's criteria. The study results indicate that the research tool is reliable, while the regression analyses reveal significant effects among most of the EFQM Model 2020 criteria. As this is a preliminary small-scale quantitative study, the results are not generalizable. Therefore, further large-scale research focusing on this topic could shed light and provide further evidence on the relationships among the criteria of the novel EFQM Model 2020.

*Keywords: EFQM Model 2020, regression models, path analysis, public sector services, organisational transformation, Greece*

### INTRODUCTION

This paper aims to apply the European Foundation for Quality Management (EFQM) model 2020 in quantitative research to examine the relationships among its criteria within the context of public administrative services in Greece. The literature indicates extensive utilization of previous versions of the EFQM model within the European setting (van Schoten *et al.*, 2016), yet data regarding the experiences and outcomes associated with the implementation of the EFQM model 2020 remain inadequate (Bocoya-Maline *et al.*, 2023). In today's world, every organization encounters the challenge of operating in an ever-changing context (Kafetzopoulos, 2023). Hence, many organizations strive to overcome multiple and diverse obstacles in their efforts to adapt, transform and stay current, and they

seek to receive valuable feedback and gain insight into the quality of their operations and/or performance. To guide them in their continuous improvement and organisational transformation, organisations utilize different models (van Schoten *et al.*, 2016), such as the EFQM model. The EFQM model was first introduced in 1991 and has been revised several times over the years to keep up with the latest trends and developments. The most recent update of the model in 2020 has significantly reformed the structural model and the criteria of the model compared to its predecessor, the EFQM model 2013. Specifically, on the one hand, the EFQM 2013 had two types of criteria, the Enablers and the Results, and a total number of 9 criteria. The Enablers consisted of the criteria of Leadership, Strategy, People, Partnerships and Resources, Processes, Products and Services and the Results consisted of the criteria of Customer Results, People Results, Society Results and Business Results (EFQM, 2012). On the other hand, the EFQM model 2020 has three types of criteria, Direction, Execution and Results, and a total of 7 criteria (Figure 1.). Direction consists of the criteria of Purpose, Vision and Strategy and Organizational Culture and Leadership, Execution consists of the criteria of Engaging Stakeholders, Creating Sustainable Value and Driving Performance and Transformation, while Results include the criteria of Strategic and Operational Performance and Stakeholder Perceptions (EFQM, 2021).

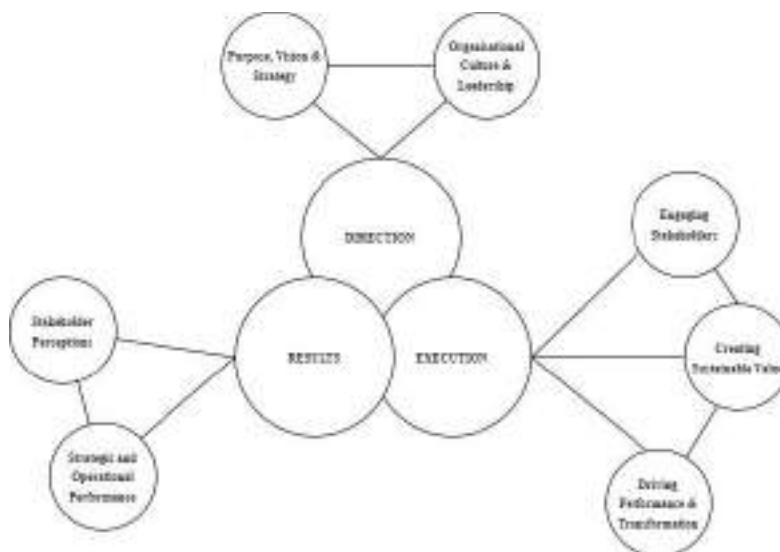


Figure 1. *The EFQM Model 2020*

There are several studies conducted in Europe that have used the predecessors of the EFQM model 2020 as a research framework to explore the relationships between the model's criteria and also with other concepts. Most of these researches concern organizations operating in the private sector, while studies investigating public sector organizations are limited. In order to gain a better understanding of the above, some indicative studies that focused on private organizations are presented in Table 1. that shows the study's identity, the research area and object and the research objective along with the

methodology that each study followed, which in most cases was the structural equation modeling methodological approach.

| Nr. | Paper identity                   | Research object   | Research objective   | Methodology  |
|-----|----------------------------------|---|--|--|
| 1   | Heras-Saizarbitoria et al., 2012 | Spanish companies   | Analyze the relationships among EFQM enablers and results criteria   | Structural equations modeling methodology                    |
| 2   | Calvo-Mora et al., 2014          | Spanish firms from the services sector and manufacturing industry | Analyze the relationships between management and human resources, strategic management of partnerships and resources, processes management and key results based on the EFQM Model   | Factor analysis and structural equation modeling methodology |
| 3   | Suárez et al., 2014              | Spanish private firms   | Examines the readership between policy and strategy, people, partnerships and resources, and processes and the latent factor results constructed of the four types of the EFQM model results, (key, people, customer, and society results) | Structural equations modeling methodology                    |
| 4   | Pop and Pelau, 2017              | Case study of a Romanian company                                  | Relationships between the criteria of the EFQM model   | Correlation analysis   |
| 5   | Kafetzopoulos et al., 2019       | Greek manufacturing companies                                     | Analyze the relationships among the EFQM enabler excellence, business performance with innovation. as a mediator   | Structural equations modeling methodology                    |
| 6   | Para-González et al., 2021       | Spanish firms industrial  | Analyse the relationships strategy, leadership people and performance  | Structural equations modeling methodology                    |
| 7   | Tarí et al., 2023                | Five-star and five-star large luxury hotels in Spain              | Analyses the relationship between transformational leadership and the enablers (Strategy, People, Partnership and Processes) and the result (Customer results, Employee results, Social results, and Organizational performance)           | Structural equations modeling methodology                    |
| 8   | Bocoya-Maline et al., 2023       | Spanish organisations with EFQM recognition                       | Analyse the relationships among EFQM criteria, knowledge management and the results  | Structural equation modeling methodology                     |
| 9   | Giménez Espín et al., 2023       | Spanish manufacturing companies                                   | Large scale research that explores the relationship  | Structural equations modeling                                |

|  |  |  |   |             |
|--|--|--|---|-------------|
|  |  |  | between organisational culture and EFQM model application | methodology |
|--|--|--|---|-------------|

Table 1. Studies that used previous versions of the EFQM Model and focused on private organisations

All the research conducted in Europe that applied the previous versions of the EFQM model and focused on public sector organizations to explore the relationships between the model's criteria is extremely limited and focused only on organizations belonging to the public education sector (Anastasiadou, 2018; Anastasiadou and Zirinoglou, 2015; Anastasiadou *et al.*, 2014; Calvo-Mora *et al.*, 2006; Đorđević *et al.*, 2021, Kaplani and Zafiroopoulos, 2022) and the public health sector (van Schoten *et al.*, 2016). Furthermore, the literature review shows that there is a lack of quantitative studies that have applied the new version of the model, the EFQM model 2020, in Europe and beyond. Specifically, only three studies were identified that used the new model as a framework. Two of these studies were conducted in Europe, specifically in Slovakia; one of them focused on industrial organizations (Turisová *et al.*, 2021), and the other was a case study of a secondary vocational school unit (Sütőová *et al.*, 2022). The third identified study was conducted outside Europe, in Iran, and focused on 90 organizations associated with the Executive Headquarters of Imam Khomeini (Tavallaei *et al.*, 2021). More detailed information on the objective, design, and methodology of the studies is provided in Table 2.

| Nr. | Paper identity                 | Research object   | Research objective  | Research Sample  | Methodology  |
|-----|--------------------------------|---|---|--|--|
| 1   | Turisová <i>et al.</i> , 2021  | 70 industrial organizations in Slovakia   | Assess the readiness of the organisations regarding the concept of maintenance management and machine integrated safety by using a questionnaire based on the EFQM model 2020 and with a scoring system | 50 top managers from automotive, mechanical engineering and services area and 20 top managers from business, construction, electrical engineering, energy and metallurgy area. | Descriptive statistical analysis with no reference to reliability testing                        |
| 2   | Sütőová <i>et al.</i> , 2022   | Case study of a vocational school unit in Slovakia  | Analyze the relationship between Direction, Execution and Stakeholder Perceptions   | 72 Teaching and Training Staff members and 9 Management Staff members  | Descriptive statistical analysis & Correlation analysis with no reference to reliability testing |
| 3   | Tavallaei <i>et al.</i> , 2021 | 90 organisations associated with the Executive Headquarters of Imam Khomeini's Command in Iran. | Explore the relationship between Knowledge Management and the EFQM model 2020 criteria of Organisational  | 67 top managers and excellence experts   | Structural equation modeling methodology and reliability testing                                 |

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  | Culture and Leadership, Stakeholder Engagement and Strategic Operational Performance |  |  |
|--|--|--|--|--|--|

Table 2. Studies that applied the EFQM Model 2020 in quantitative research

In light of the above, it can be argued that there is no evidence in the literature regarding the application of the EFQM model 2020 in quantitative research that explores the relationships between the model's criteria, and no available data that supports the reliability of the novel EFQM model as a framework in quantitative research in Europe. Therefore, this study seeks to investigate the aforementioned in the context of a European country, specifically Greece, and with a focus on the area of public sector administrative services. Finally, the study presents the theoretical framework of the proposed research model based on the EFQM model 2020, describes the research methodology followed, and then presents the study findings and conclusions.

**THEORETICAL FRAMEWORK AND PROPOSED RESEARCH MODEL**

This study proposes a research model based on the conceptual framework and structure of the EFQM model 2020. Specifically, the study develops the model by using the key factor criteria of the EFQM model 2020, Purpose, Vision & Strategy (PVS), Organizational Culture & Leadership (OCL), Engaging Stakeholders (ES), Creating Sustainable Value (CSV), Driving Performance & Transformation (DPT), Strategic & Operational Performance (SOP), and Stakeholder Perceptions (SP), and establishes relationships among these criteria that are supported by the literature. The proposed research model is detailed in Figure 2.

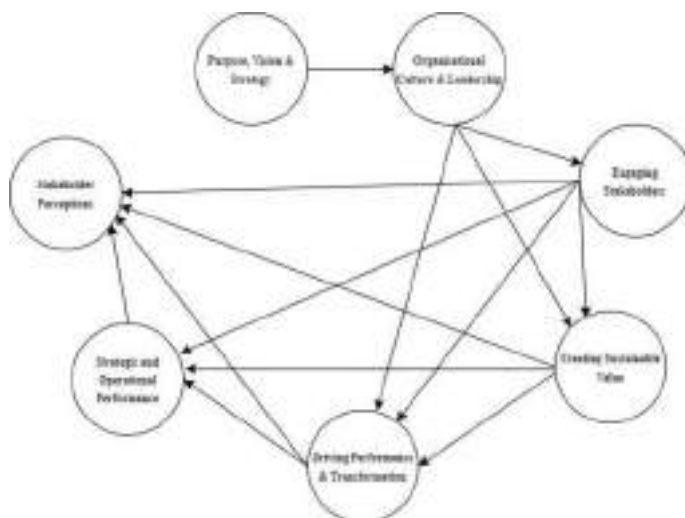


Figure 2. The research model



According to van Ingen *et al.* (2021, p.2), organizational purpose is defined as “*the organization’s reason for being*” while vision describes the organization's ideal future condition (Kotter, 1990) and strategy is how an organisation plans to accomplish one or more goals in the face of uncertainty and usually entails establishing objectives, choosing a course of action, and allocating resources to carry out the plan of action (Barad, 2018). Organisational culture is the values-belief system in an organisation that is shared by every person of the organization in an organisation and is shared by every person in the organization (Scammon *et al.*, 2014), and leadership is the skill of inspiring others to strive for common goals (Kouzes and Posner, 1995). A stakeholder is any interesting party who has an interest in an organisation’ projects or its results (Mayfield, 2014), and according to the position of the stakeholder, inside or outside the organisation, there are two types, the internal and external stakeholders (Franklin, 2001). Engaging stakeholders “*is a strategic process of interacting with stakeholders to gather information about shared interests, preferences, and the potential for joint action*” (Franklin, 2020, p.2), and it is crucial since it can provide valuable information that support the organisation in making decisions which lead to sustainable value creation and to mutual benefits for the organisation and its stakeholders (Franklin, 2020). Creating sustainable value “*occurs only when a company creates value that is positive for its shareholders and its stakeholders*” (Laszlo, 2008a, p. 26), and plays a vital role for the organisations’ competitiveness (Li *et al.*, 2021). Driving Performance and Transformation refers to the organisations’ efforts to continue its daily operations and achieve its goals while keeping up with the changes in the external and internal parameters of its environment (EFQM, 2021). Strategic and Operational Performance is how effectively an organisation attains the objectives that has set at a strategic and operational level while Stakeholders Perceptions are the views of those who have a stake in the organisation that have been shaped on the basis of what they have experienced during their interactions with the organisation (EFQM, 2021). Moreover, the purpose of an organisation is the foundation for the identification of the organisations’ value system which is a key element for the formulation of the organisation’s culture (Babnik *et al.*, 2014). In addition, the organisation’s purpose and vision are the pillars of the organisational culture. Also, strategy affects organisational culture since the latter must be in alignment with the organisation’s strategy (Carataş and Spătariu, 2018). Furthermore, strategy influences leadership (Marx, 2015), along with stakeholder engagement since it serves as a means for the strategy to attain its objectives and to improve organisational performance (Hristov and Appolloni, 2022). Also, strategy affects organisational performance and transformation since change must be an integrated part of the organisations’ strategy to facilitate their adaptation to new trends (Phillips and Klein, 2023). Additionally, nowadays sustainability has become a necessity, hence every organisation is called to integrate this aspect in its strategy in order to achieve sustainable value creation for its stakeholders and the organisation (Hart *et al.*, 2003), Therefore, it can be argued

that strategy can affect the creation of sustainable value along with organisational performance. Also, Pinho *et al.* (2014), have revealed that organisational culture influences positively organisational performance and Kriemadis *et al.*, (2012) argue that organizational culture plays a crucial role in every organization striving for effective organizational performance. Moreover, organisational culture influences positively people's performance (Paschal and Nizam, 2016), and Akpa *et al.* (2021), argue organisational culture impacts every person that has an interest in the organization. Also, Yanney (2014), has revealed that strategy and leadership have an influence on organizational performance. Furthermore, Conțu (2020), argues that there is a correlation between the people's performance and organisational performance while the study of Acosta-Prado *et al.* (2023), shows a direct positive influence of sustainable value creation on organizational performance. Moreover, stakeholder engagement is crucial for achieving the organisations' goals towards sustainability (Leal *et al.*, 2016). Also, stakeholder engagement plays a key role in the organisations' transformation and its effort to create sustainable value (Laszlo, 2008b). Moreover, the creation of sustainable value influences positively strategic and operational and performance (Hart and Ahuja, 1996). Furthermore, literature reveals that the way the stakeholders relate with an organisation is positively associated with the organisation's contributions to sustainability since the latter is a determinant factor of the stakeholders' decision making (Peloza *et al.*, 2012). Moreover, a clear correlation exists between an organization's stakeholder engagement strategy and the stakeholders' points of view about the organization (EFQM, 2021). Also, strategic and operational performance has an effect on stakeholders' perception since the stakeholders' attitudes towards the organisation are formulated based on how they interacted with the organization (EFQM, 2021). Also, both profit and nonprofit organizations concern about their reputation and try to shape the perceptions of stakeholders about their performance. Considering the above the following hypotheses were formulated:

H1. PVS has a significant positive effect on OCL; H2. PVS has a significant positive effect on ES; H3. OCL has a significant positive effect on ES; H4. PVS has a significant positive effect on CSV; H5. OCL has a significant positive effect on CSV; H6. ES has a significant positive effect on CSV; H7. PVS has a significant positive effect on DPT; H8. OCL has a significant positive effect on DPT; H9. ES has a significant positive effect on DPT; H10. CSV has a significant positive effect on DPT; H11. ES has a significant positive effect on SOP; H12. CSV has a significant positive effect on SOP; H13. DPT has a significant positive effect on SOP; H14. ES has a significant positive effect on SP; H15. CSV has a significant positive effect on SP; H16. DPT has a significant positive effect on SP; H17. SOP has a significant positive effect on SP.

## METHODOLOGY

Before conducting this study, the authors submitted the research protocol to the Research Ethics Committee of the University and to the Ministry of Education, Religious Affairs and Sport of Greece, and approval was granted by both parties (Decision No. 37/17-07-2023 and Decision No. 86346/N4/31-07-2023, respectively). The study used a structured questionnaire based on the EFQM 2020 self-assessment tool, which consisted of eight parts, one for each of the seven criteria of the EFQM 2020 model, and a final part for demographics. The questionnaire for the seven-factor criteria used the scale of the self-assessment tool, which is a Likert scale (1=nothing in place to 11=best in class). The forward-backward method as described by Beaton *et al.* (2007) was used to translate the questionnaire into Greek and two focus groups (7 managers and 7 employees of public administrative services in Greece) were conducted to check the face validity of the questionnaire and the appropriateness of its items for the context of the study. Subsequently, the online questionnaire was prepared, and its link was emailed to a convenience sample of 50 managers of public administrative services in Greece. After data collection, SPSS software was used to check the reliability of the questionnaires by generating Cronbach's alpha coefficients, to perform unidimensionality analysis for each scale, descriptive statistical analysis for the demographics of the participants, and finally correlation and regression analysis to explore the relationships between the criteria of the EFQM model 2020.

## RESULTS

### *Participants' demographics*

The study's sample consisted of 50 managers of public regional administrative services of the Ministry of Education, Religious Affairs and Sports of Greece. Most participants were male (56%), and more than half of the managers were 51-60 years old (58%). Also, almost two out of three participants (66%) have completed postgraduate studies while one out of three respondents (36%) had 0-5 years of management experience.

### *Questionnaire's reliability, and a first look in convergent and discriminant validity results*

The reliability of the research tool was checked. All the Cronbach's alpha coefficients for the questionnaire's scales that measured each criterion-construct of the EFQM model 2020 were above the 0.70 threshold: PVS 0.960, OCL 0.903, ES 0.900, CSV 0.904, DPT 0.857, SOP 0.888, SP 0.936.

Also, the results of the Unidimensionality analysis showed the items of each questionnaire scale produced only one factor and the maximum and minimum factor loadings for each criterion were for PSV max= 0.952 and min=0.804, for OCL max=0.921 min=0.798, for ES max=0.887 and min=0.800, for

CSV max=0.981 and min=0.728, for DPT max=0.922 and min=0.504, for SOP max=0.941 and min=0.343 and for SP max= 0.960 and min=0.616.

The results of correlation analyses that were conducted to investigate the relationships between the EFQM model 2020 criteria showed that no correlation coefficient had a value above .90 (Table 3.).

| Criterion | PSV     | OCL     | ES      | CSV     | DPT     | SOP     | SP |
|-----------|---------|---------|---------|---------|---------|---------|----|
| PVS       | 1       |         |         |         |         |         |    |
| OCL       | 0.785** | 1       |         |         |         |         |    |
| ES        | 0.632** | 0.675** | 1       |         |         |         |    |
| CSV       | 0.559** | 0.607** | 0.497** | 1       |         |         |    |
| DPT       | 0.655** | 0.719** | 0.688** | 0.853** | 1       |         |    |
| SOP       | 0.632** | 0.726** | 0.755** | 0.629** | 0.747** | 1       |    |
| SP        | 0.588** | 0.753** | 0.725** | 0.683** | 0.749** | 0.895** | 1  |

Table 3. Construct reliability (\*\* $p < 0.01$ )

### Regression analysis

Subsequently, path analysis was used to evaluate the relationships between the criteria of the EFQM model 2020. The results of the regressions and especially the direct effects  $\beta$ , presented in Table 4, show that hypothesis H1 is supported and PVS plays a significant role in shaping OCL ( $\beta=0.785$ ,  $p < 0.001$ ). Furthermore,  $R^2=0.615$  indicates that the model explains 61.5% of the variance in OCL. Also, on the one hand, hypothesis H2 is not supported and PVS has no significant effect on ES, but on the other hand, OCL has a significant effect on ES ( $\beta=0.467$ ,  $p < 0.01$ ), so hypothesis H3 is supported and  $R^2=0.483$  indicates that the model explains 48.3% of the variance in ES. Also, hypotheses H4, H5, and H6 are not supported as PVS, OCL, and ES have no significant effect on CSV. In addition, the results indicate that PVS and OCL do not have a significant effect on DPT, therefore hypotheses H7 and H8 are not supported, but ES ( $\beta=0.267$ ,  $p < 0.01$ ) and CSV ( $\beta=0.618$ ,  $p < 0.001$ ) have a positive significant effect on DPT, therefore H9 and H10 are supported and the  $R^2=0.832$  indicates that the model explains 83.2% of the variance in DPT. Furthermore, the results show that hypothesis H11 is supported, and ES has a significant positive effect on SOP ( $\beta=0.479$ ,  $p < 0.001$ ), while CSV and DPT have no significant effect on SOP, therefore H12 and H13 are not supported and the model's  $R^2=0.673$  indicates that the model explains 67.3% of the variance in SOP. Finally, the results of the last multiple regression model indicate that only SOP has a positive and significant effect on SP ( $\beta=0.699$ ,  $p < 0.001$ ), therefore H17 is supported and the  $R^2=0.829$  indicates that the model explains 82.9% of the variance in SP, while ES, CSV, and DPT have no significant effect on SP, therefore H14, H15, H16 are not supported by the results.

| Hypothesis | Independent variable(s) | Dependent variable | R2    | Beta coefficient ( $\beta$ ) | t-value | p-value | Hypothesis supported |
|------------|-------------------------|--------------------|-------|------------------------------|---------|---------|----------------------|
| H1         | PVS                     | OCL                | 0.615 | 0.785                        | 8.765   | 0.000   | Yes                  |
| H2         | PVS                     | ES                 | 0.483 | 0.266                        | 1.571   | 0.123   | No                   |
| H3         | OCL                     |                    |       | 0.467                        | 2.761   | 0.008   | Yes                  |
| H4         | PVS                     | CSV                | 0.395 | 0.182                        | 0.959   | 0.342   | No                   |
| H5         | OCL                     |                    |       | 0.379                        | 1,899   | 0.064   | No                   |
| H6         | ES                      |                    |       | 0.127                        | 0.793   | 0.432   | No                   |
| H7         | PVS                     | DPT                | 0.832 | 0.032                        | 0.313   | 0.756   | No                   |
| H8         | OCL                     |                    |       | 0.139                        | 1.260   | 0.214   | No                   |
| H9         | ES                      |                    |       | 0.267                        | 3.115   | 0.003   | Yes                  |
| H10        | CSV                     |                    |       | 0.618                        | 7.868   | 0.000   | Yes                  |
| H11        | ES                      | SOP                | 0.673 | 0.479                        | 4.004   | 0.000   | Yes                  |
| H12        | CSV                     |                    |       | 0.127                        | 0.761   | 0.451   | No                   |
| H13        | DPT                     |                    |       | 0.310                        | 1.556   | 0.127   | No                   |
| H14        | ES                      | SP                 | 0.829 | 0.117                        | 1,152   | 0.256   | No                   |
| H15        | CSV                     |                    |       | 0.222                        | 1.820   | 0.075   | No                   |
| H16        | DPT                     |                    |       | -0.044                       | -0.293  | 0.771   | No                   |
| H17        | SOP                     |                    |       | 0.699                        | 6.495   | 0.000   | Yes                  |

Table 4. Simple and multiple regression analyses results among the EFQM Model 2020 criteria

## DISCUSSION

The literature reveals a limited number of quantitative studies that use the novel EFQM model 2020 as a framework for their research and a lack of studies that examine public sector services. In addition, there is a paucity of research that examines the relationships among the EFQM model 2020 criteria. Furthermore, there is no evidence in the literature about the reliability of this new model in the context of a European country. Therefore, the purpose of this study was to verify the reliability of the EFQM model 2020 in the European context and to explore the relationships among its criteria by applying path analysis and regression models in the context of a pilot study of a research program. Since data regarding the experiences and outcomes associated with the implementation of the EFQM model 2020 remain inadequate (Bocoya-Maline et al., 2023) and the EFQM model 2020 makes no assumptions and does not foresee any underlying relationships among the EFQM model criteria except for the relationship between Engaging Stakeholders and Stakeholders Perceptions, this study's innovation lies in its hypothesizing and testing of the relationships among the criteria of the EFQM model 2020 in the context of a European country, with a focus on public sector services.

The results of the study support the reliability of the proposed model in the context of the research. Moreover, based on the results, many of the hypotheses of the study are confirmed (H1, H3, H9, H10, H11, H17). The results show that PVS has a strong positive effect on OCL, which is consistent with

previous literature (Babnik *et al.*, 2014; Carataş and Spătariu, 2018; Marx, 2015). Therefore, public services must focus on providing clarity of purpose, vision, and strategy to guide the work of leadership and facilitate the cultivation of an organizational culture that promotes the achievement of public service goals. The results also showed that OCL has a significant positive impact on ES, which is supported by previous findings (Akpa *et al.*, 2021; Carataş and Spătariu, 2018). Therefore, it is essential for the services to cultivate their leadership and organizational culture in a way that prioritizes the growth of their employees, their commitment to the organization, and the promotion of mutually beneficial relationships between the services and their stakeholders. In addition, the findings showed that ES has positive significant effects on DPT (Conţu, 2020; Laszlo, 2008b, Leal *et al.*, 2016) and SOP respectively (Hristov and Appolloni, 2022). Therefore, stakeholder engagement must be a priority and an integrated part of the services' strategic plan in order to achieve their performance and strategic goals and keep up with the changes in their environment. Moreover, the results revealed that CSV has a positive and significant effect on DPT, which is consistent with the literature (Acosta-Prado *et al.*, 2023; Hart and Ahuja, 1996), therefore, public services must integrate the aspect of sustainability in their strategy and goal setting. Also, the results indicated that SOP has a positive and significant effect on SP, which is supported by literature (EFQM, 2021), therefore, public services must make efforts to achieve their strategic and operational performance goals and to meet the expectations of their stakeholders in order to shape and achieve the desired stakeholder perceptions towards public sector services. Lastly, as this was a small-scale preliminary study, the results cannot be generalized. Therefore, future research should be conducted in other contexts to enhance the robustness and validity of the findings and to provide a more comprehensive understanding of the relationships among the EFQM model 2020 criteria.

## CONCLUSIONS

The present study focuses on the application of the EFQM model 2020 as a framework for quantitative research to explore the relationships between the model's criteria in the context of the Greek public administrative services. The results of the study support the reliability of the research model and reveal positive and significant relationships between Purpose, Vision & Strategy and Organisational Culture & Leadership; Organisational Culture & Leadership and Engaging Stakeholders; Engaging Stakeholders and, Driving Performance & Transformation and Strategic & Operational Performance respectively; Creating Sustainable Value and Driving Performance & Transformation; and finally Strategic & Operational Performance and Stakeholders Perceptions. Considering the above, this study offers enhanced insights into the EFQM model 2020 and the relationships among its criteria and contributes to the existing knowledge about this novel model. As this study represents a small-scale

preliminary investigation, future large-scale research should be conducted in similar or different settings to ensure the generalizability of the results and to identify potential variations or nuances in the relationships among the EFQM model 2020 criteria.

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# SYSTEMATIC LITERATURE REVIEW ON THE APPLICATION OF THE EFQM MODEL AS A FRAMEWORK IN QUANTITATIVE RESEARCH IN THE CONTEXT OF THE GREEK PUBLIC SECTOR

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## ABSTRACT

This paper presents the state of the art in the application of the EFQM model as a framework in quantitative research in the Greek public sector. The study follows the systematic literature review approach. Specifically, after identifying the research question, the SPIDER tool is used to generate the search terms and the inclusion-exclusion criteria are specified along with the search strategy. Three databases (Science Direct, Research Gate, and Google Scholar) were included in the search process along with a gray literature search. Initially, the search yielded 4638 records. After screening the titles and abstracts of the papers, 4547 irrelevant and 16 duplicate papers were excluded, leaving 75 papers for in-depth review. Finally, 12 papers met the eligibility criteria and underwent full-text review. The analysis shows that the EFQM model has been used as a framework for quantitative research in the Greek public sector, but the number of studies is limited. The vast majority of the researches focus on the education sector, and they are large-scale studies, while the research in different public sector areas is extremely limited and concerns case or small-scale studies. Moreover, the study shows that the new EFQM Model 2020 has not yet been used as a framework in quantitative research, as all previous studies used older versions of the model. Considering the above, there is a research gap in the literature on this topic of interest, which can be a starting point for future large-scale research in public sector services in Greece operating outside the education sector.

*Keywords: Systematic literature review, EFQM Model, quantitative research, public sector, services, organisational transformation, Greece, spider tool, PRISMA flow diagram*

## INTRODUCTION

The purpose of this paper is to identify the state of the art in the application of the EFQM model as a framework in quantitative research in the Greek public sector context. In the contemporary era, organizations are called to confront a constantly shifting landscape (Kafetzopoulos, 2023), hence, they

need to cultivate their ability to adapt to the demands of their time and manage change effectively. Public sector services are no exception, and because of their key role and contribution to achieving sustainable prosperity, they must focus on continuously improving their effectiveness and efficiency. In addition, public sector services need to monitor their performance in achieving the goals they have set at the strategic and operational levels. To navigate their path to organisational transformation successfully, organizations have to identify and make effective use of the key factors that contribute to their transformation. To achieve this goal, public sector services need to adopt new ways of thinking and acting, guided by the five basic principles of Total Quality Management, which are: producing work of quality and importance from the beginning; focusing attention on achieving a satisfied clientele; having a clear strategic plan for improvement; involving the entire workforce in continuous improvement efforts; cultivating and promoting mutual respect and teamwork within the organization (Mohammed *et al.*, 2013). Many models have emerged in the literature that are based on the aforementioned principles (Rosak-Szyrocka and Roszak, 2019) and aim to provide guidance to organizations in their efforts to improve their operations and performance (Øvretveit, 2005), and to transform in response to the demands of today's dynamic and constantly changing environment. One of these models is the European Foundation for Quality Management model (EFQM model), which since its first introduction to the public in 1991 (Fonseca *et al.*, 2021) has been regularly updated to integrate the new concepts and trends that emerge over the years (Santos-Vijande and Alvarez-Gonzalez, 2007; Fonseca *et al.*, 2021). The first important update of the model was realized in 1995, when the Results group was divided into two subgroups (Porter and Tanner, 2004). The model was modified again in 1999 when the Resources criterion was changed to Partnerships and Resources and the three sub-groups of the Results group were introduced by using the term "Results" instead of the previous term "Satisfaction" (Porter and Tanner, 2004). The European Foundation for Quality Management presented the revised version of the EFQM model in 2003 (Figure 1.), which had 9 criteria divided into 2 groups. The first group, Enablers, included 5 criteria, namely Leadership, Policy & Strategy, People, Partnerships & Resources, and Processes. The second group, Results, consisted of the remaining 4 criteria, Customer Results, People Results, Society Results, and last but not least, Key Performance Results, which represent what the organisation achieves through its operations.

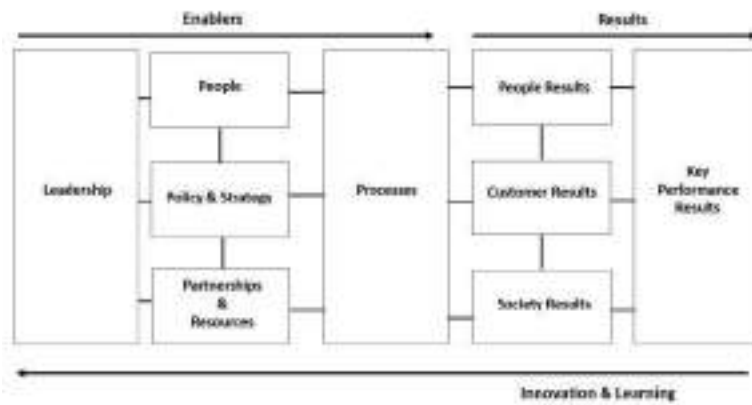


Figure 1. The EFQM model 2003

Subsequently, another revision of the model resulted in the EFQM model 2010 with the following changes. The criterion Policy & Strategy changed to Policy, Processes changed to Processes, Products & Services and Key Performance Results changed to Key Results. The new version of the model also recognized the value and contribution of creativity to the continuous improvement of an organisation, in addition to innovation and learning. Therefore, Innovation & Learning of the EFQM model 2003 changed to Learning, Creativity & Innovation in the EFQM model 2010 (Figure 2.).

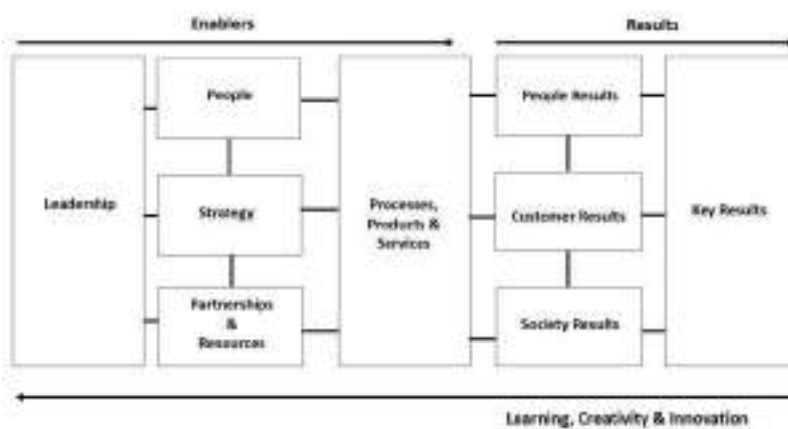


Figure 2. The EFQM model 2010

In 2012, another revised version of the model was introduced, the EFQM model 2013 (Figure 3.), which maintained the structure of the 9 criteria and the 2 groups of Enablers and Results (EFQM, 2012). The changes in this model concerned only the criterion Key Results, which changed to Business Results, because the term "Key" was considered confusing, since it was used to identify results of high importance in all the types of the Results criteria (EFQM, 2012).

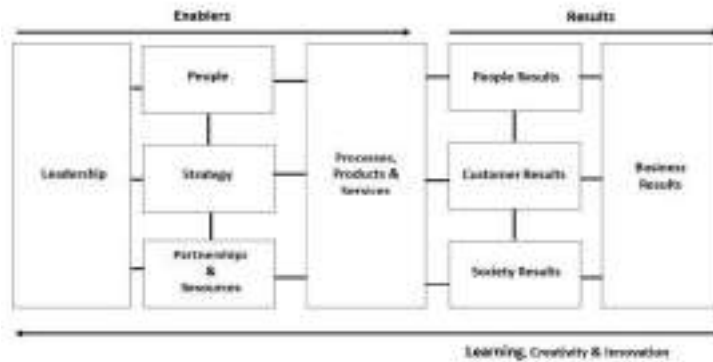


Figure 3. The EFQM model 2013

The latest update of the model, the EFQM model 2020, which presents major differences from the previous EFQM models in the way the model is structured, but also in its criteria and categories. To be more specific, the EFQM model 2020 (Figure 4.), presents 7 criteria and 3 categories of criteria. The three categories are Direction, Execution and Results. The criteria that belong to Direction are Purpose, Vision & Strategy and Organizational Culture & Leadership, those that belong to Execution are Engaging Stakeholders, Creating Sustainable Value and Driving Performance & Transformation and last but not least those that belong to Results are Strategic & Operational Performance and Stakeholder Perceptions (EFQM, 2021).

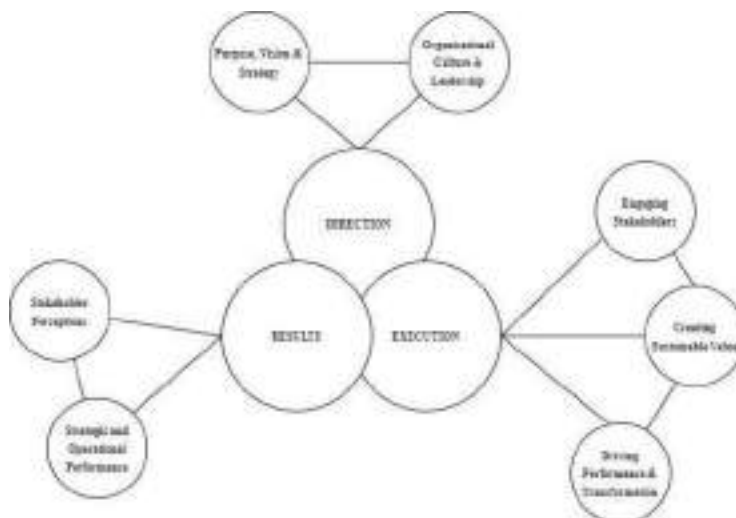


Figure 4. The EFQM model 2020

The literature shows a wide use of the EFQM model in the European context (van Schoten *et al.*, 2016), as the model was created in accordance with the social and economic characteristics of Europe (Oger and Platt, 2002). In addition, the EFQM has made adaptations so that the model can also be used by public sector organizations. (Gené-Badia *et al.*, 2001). There are also several studies in European

countries (such as Spain, Denmark and Romania) that have applied the EFQM model as an assessment framework and for determining the cause-and-effect relationships between the criteria of the model. However, most of these studies concern private companies operating in the industrial and construction sectors, as well as in the service sector (Bou-Llusar *et al.*, 2005; Eskildsen *et al.*, 2000; Gómez *et al.*, 2015; Hemsworth, 2016; Heras-Saizarbitoria *et al.*, 2012; Pop and Pelau, 2017). At the same time, there are some studies that have applied the EFQM model in public sector services, especially in higher education institutions (Calvo-mora, *et al.*, 2005; Calvo-mora *et al.*, 2006). For all the above, the EFQM model was selected to be studied in the context of this paper. Subsequently, this paper presents the research methodology and results of the study, followed by the discussion and conclusions of the study.

## METHODOLOGY

The aim of this paper is to provide a comprehensive overview of the existing literature on whether the EFQM model has been used as a framework for quantitative research in the context of Greek public services. For this purpose, the paper follows the methodological approach of conducting a systematic literature review, which is "a rigorous and transparent form of literature review" (Mallett *et al.*, 2012, p. 445), whose importance has increased as it allows researchers to keep up with the novelties in their field (Swartz, 2011). Khan *et al.* (2003), propose a five-step guide to follow when conducting a systematic literature review, namely, formulating the research question, identifying the relevant literature, assessing the quality of the selected literature, summarizing the findings, and finally interpreting them. Following the above, the research question of this paper is as follows: "Has the EFQM model been applied as a framework in quantitative research in public sector services in Greece?". After defining the research question, the SPIDER tool (Cooke *et al.*, 2012) was applied and it generated the following search terms (Table 1).

| SPIDER Tool               | Search Terms  |
|---------------------------|---|
| S-Sample                  | "Greek public sector managers" OR "Greek public sector experts" OR "Greek public sector employees" OR "Greek public sector servants" OR "Greek public sector directors" |
| PI-Phenomenon of Interest | "EFQM model research framework" OR "EFQM assessment framework" OR "EFQM evaluation framework" OR "Total Quality Management model" Or "Excellence model"                 |
| D-Design                  | "questionnaire" OR "survey" OR "case study"   |
| E-Evaluation              | "opinions" OR "views" OR "attitudes" OR "perceptions"   |
| R-Research type           | "quantitative" OR "mixed methods"   |

Table 1. The search terms generated by the SPIDER tool

Subsequently, the inclusion and exclusion criteria to be applied during the study selection process were specified. Specifically, the inclusion criteria were 1. studies that used the EFQM model as a research framework 2. Studies that focused on the public sector services in Greece 3. No restrictions were applied to the publication date 4. Studies that followed the methodology of quantitative and mixed methods research approach and 5. studies that were written in English and/or Greek. The exclusion criteria were: 1. studies that used other models as a research framework. 2. studies that applied the EFQM model in private sector organizations 3. studies that were not written in Greek or English, and 4. studies that followed a qualitative research methodology. Regarding the number of databases to be included in the search process, the authors considered the guidelines that suggest searching at least two databases (Shea *et al.*, 2017) or more than two (Charrois, 2015). Therefore, in the context of this paper and with the aim of conducting a search that is as comprehensive as possible, three (3) databases were searched, specifically Science Direct, Research Gate and Google Scholar. The authors also followed the recommendations to include a search in the gray literature during this process (Godin *et al.*, 2015; Paez, 2017). Therefore, the National Archive of Ph.D. Theses of the National Documentation Center of Greece and the Digital Library and Institutional Repository of the authors' university were included in the database search. In addition, the study followed the recommendation that the minimum number of reviewers involved in a systematic review should be two (Stoll *et al.*, 2019), as the two authors both conducted the review. The aforementioned search strategy initially identified 4638 papers, of which 4547 were excluded as ineligible because their content did not fit the research question. The references of the remaining 91 papers were imported into an Excel spreadsheet to create a bibliographic list to track and exclude duplicate papers. This process identified 16 papers as duplicates, which were excluded. Therefore, 75 papers proceeded to the next step and underwent title and abstract screening. This process resulted in the exclusion of 63 papers due to the fact that they were qualitative studies, they used another model as their research framework, or they presented only a literature review on the EFQM model. In the end, 12 papers were selected for full text screening and all of them were found to meet the eligibility criteria to be included in this review. In Figure 5., an adaptation of the PRISMA flow diagram created by Page *et al.* (2021), is used to describe the selection process.



Figure 5. The PRISMA Flow diagram

After the selection stage, the papers were evaluated for quality based on the methodology they followed, and no exclusions were made based on quality. The data extraction process was then carried out to obtain the relevant data from each paper. For this purpose, the authors used a standardized data extraction form that included information about the study details, such as the names of the authors, the year of publication and the language of the study, the type of public service that the study focused on, the design of the study as well as its methodology, its participants, the version of the EFQM model that was used as the research framework, and finally, information about the statistical analysis approach that each study followed. Finally, the authors summarized their findings which are presented in the following section.

## RESULTS

This systematic literature review was conducted to determine whether the EFQM model has been used as a framework for quantitative research in the context of Greek public services. The search identified 4638 papers, of which only 75 were selected for screening and 16 papers were excluded as duplicates. Subsequently, only 12 papers met the inclusion criteria and underwent full-text screening. A detailed review and assessment of the methodological approach of the 12 papers and further analysis followed. Due to the small number of studies, no exclusions based on quality were made. The limited number of identified studies revealed that research in the field of public services in Greece using the EFQM model as a framework for quantitative research is scarce. Furthermore, the analysis revealed that only 3 papers (Eleftheriadou, 2012; Simeonidou, 2015; Triviza, 2016) were found that focused on public services outside of education, specifically on administrative and health services, and these studies are presented in detail in Table 2.



| Nr | Paper Identity      | Language | Research object  | Research Design      | Version of EFQM Model | Sample                | Methodology                      |
|----|---------------------|----------|--|----------------------|-----------------------|-----------------------|----------------------------------|
| 1  | Eleftheriadou, 2012 | Greek    | Greek public hospitals   | Small scale research | EFQM 2003             | 19 hospital directors | Descriptive statistical analysis |
| 2  | Simeonidou, 2015    | Greek    | Services of the Special Account for Research Funds of the Aristotle University of Thessaloniki | Case study           | EFQM 2003             | 51 employees          | Descriptive statistical analysis |
| 3  | Triviza, 2016       | Greek    | Social Security Institute branches Thessaloniki  | Case study           | EFQM 2003             | 120 employees         | Descriptive statistical analysis |

Table 2. Analysis results of the reviewed papers that focused on public administrative and health care services

The three aforementioned studies were published in 2012, 2015 and 2016 respectively, two of them were case studies (Simeonidou, 2015; Triviza, 2016) and one was a small-scale study (Eleftheriadou, 2012). All of these studies applied the EFQM model 2003, they were written in Greek, and they conducted only descriptive statistical analysis. In addition, the study participants in two of them were employees, while in the third study they were hospital directors.

Regarding the other 9 identified papers, they focused on the Greek primary, secondary and tertiary public education (Anastasiadou, 2018a; Anastasiadou, 2018b; Anastasiadou and Zirinoglou, 2014; Anastasiadou and Zirinoglou, 2015; Anastasiadou and Zirinoglou, 2020; Anastasiadou *et al.*, 2014; Kaplani and Zafiropoulos, 2022; Taraza and Anastasiadou, 2019; Zirinoglou, 2015). The results of the analysis show that these studies were published from 2014 to 2022, and one of them was written in Greek while the others were written in English. In addition, the analysis shows that the above 9 papers presented large-scale studies. Moreover, regarding the methodology used by the studies to select their study sample, only one paper (Kaplani and Zafiropoulos, 2022), provides sufficient information on the methodological approach that was used to ensure the selection of a representative sample. Regarding the participants of the studies, 5 studies have teachers as participants (Anastasiadou and Zirinoglou, 2014; Anastasiadou and Zirinoglou, 2015; Anastasiadou *et al.*, 2014; Taraza and Anastasiadou, 2019; Zirinoglou, 2015), 1 study has school principals (Kaplani and Zafiropoulos, 2022), and 3 studies have university students as participants (Anastasiadou, 2018a; Anastasiadou, 2018b; Anastasiadou and Zirinoglou, 2020). Furthermore, the results show that 2 studies used the EFQM model 2013 version as their research framework (Kaplani and Zafiropoulos,

2022; Taraza and Anastasiadou, 2019), one study used the EFQM model 2010 (Zirinoglou, 2015), while the other 6 used an older version, the EFQM model 2003. In terms of methods, the studies present a variety of statistical analysis methods. Specifically, the studies implemented methods to test the reliability and validity of the scale or scales of the EFQM model, one study conducted only descriptive statistical analysis, while two others combined it with a more advanced statistical analysis method, such as the structural equation modeling (SEM) approach. In addition, some of the studies conducted various methods of factor analysis such as principal components analysis and correspondence factor analysis, one in combination with inferential statistical analyses such as one-way analysis of variance and independent samples t-test. In addition, one of the studies performed implicative statistical analysis. The 9 papers are presented in detail in Table 3, which follows.

| Nr | Paper Identity                    | Language | Research object                       | Research Design      | Version of EFQM Model | Sample  | Methodology   |
|----|-----------------------------------|----------|---------------------------------------|----------------------|-----------------------|---|---|
| 1  | Anastasiadou et al., 2014         | English  | Greek Primary and Secondary Education | Large scale          | EFQM 2003             | 1000 Primary and Secondary Education teachers, no information about the methodology for the selection of the research sample  | Correspondence Factor Analysis  |
| 2  | Anastasiadou and Zirinoglou, 2014 | English  | Greek Primary Education               | Large scale research | EFQM 2003             | 153 secondary teachers, no information about the methodology for the selection of the research sample   | Reliability testing of the EFQM scale   |
| 3  | Zirinoglou, 2015                  | Greek    | Greek Primary and Secondary Education | Large scale          | EFQM 2010             | 1000 Primary and Secondary Education teachers. The applied methodology for the selection of the research sample may not lead to a representative sample of the target population. | Principal Components Analysis, One Way Analysis of Variance, Independent Samples T-test |
| 4  | Anastasiadou and Zirinoglou, 2015 | English  | Greek Primary Education               | Large scale research | EFQM 2003             | 366 teachers of Primary Education, no information about the methodology for the selection of the research sample,   | Descriptive statistics, Structural Equation Modelling                                   |
| 5  | Anastasiadou, 2018a               | English  | Greek Tertiary Education              | Large scale research | EFQM 2003             | 230 Greek students/pre-service teachers from 4 Faculties of Primary Education, no information about the methodology for the selection of the                                      | Implicative Statistical Analysis  |

|   |                                   |         |                           |                      |           |  |  |
|---|-----------------------------------|---------|---------------------------|----------------------|-----------|--|--|
|   |                                   |         |                           |                      |           | research sample.   |  |
| 6 | Anastasiadou, 2018b               | English | Greek Tertiary Education  | Large scale research | EFQM 2003 | 230 Greek students/pre-service teachers from 4 Faculties of Primary Education, no information about the methodology for the selection of the research sample | Factorial Analysis of Correspondences for the criterion Leadership of EFQM Model       |
| 7 | Taraza and Anastasiadou, 2019     | English | Greek secondary education | Large scale          | EFQM 2013 | 135 Greek secondary education teachers teaching in vocational and senior high schools  | Reliability and Validity testing of the EFQM enablers scales                           |
| 8 | Anastasiadou and Zirinoglou, 2020 | English | Secondary education       | Large scale          | EFQM 2003 | 202 Greek students of department of Business administration in the University of Western Macedonia   | Descriptive statistical analysis of the enablers of the EFQM Model                     |
| 9 | Kaplani and Zafiropoulos, 2022    | English | Greek Primary Education   | Large scale research | EFQM 2013 | Representative sample of 231 school principals of primary education.   | Structural Equation Modeling. Relationships between the EFQM criteria and Descriptives |

Table 3. Analysis results of the reviewed papers that focused on Greek public education area

Finally, it is important to note that only two studies were identified to analyse the relationships among the EFQM criteria. Specifically, Anastasiadou and Zirinoglou (2015), implemented the Structural Equation Modeling (SEM) technique and analysed the direct effects among the enablers of the EFQM model, specifically among Leadership, Policy and Strategy, People, Partnerships and Resources, and Processes, while the most recent published study by Kaplani and Zafiropoulos (2022), followed the structural equation modeling approach, specifically the PLS modeling technique using SmartPLS, and analysed the direct and indirect effects among the Enablers and Results criteria of the EFQM model to confirm the relationships among them.

## DISCUSSION

This paper presents an attempt to map the state of research in the use of the EFQM model as a framework in quantitative research in public sector services in Greece and to provide a comprehensive overview of the existing literature on this research topic. The results of the study show that the EFQM model has indeed been used as a framework in quantitative research in public sector services in

Greece, but the number of studies is limited. Furthermore, the vast majority of the researches focus on public services in the field of education, with the aim of studying primary, secondary and tertiary education services in Greece. Thus, the number of studies using the EFQM model and focusing on public services outside the education sector is extremely limited. Furthermore, all of the large-scale studies that have been conducted concern public education services, while the limited number of studies that examine services in another area of the Greek public sector are only case or small-scale studies. In addition, the results show that although the existing literature was published from 2012 to 2022, the vast majority of studies applied the older version of the EFQM model, the EFQM model 2003, one study applied the EFQM model 2010 and two studies applied the EFQM model 2013 and no study was identified to apply the new version of the model, the EFQM model 2020. In addition, the results indicate that only one study provided adequate information about the sampling technique used by the researchers, which ensured the representativeness of the sample and the generalizability of the study results. Regarding the statistical methods used by the researchers to analyse their data, the results show that some studies used only descriptive statistics, other studies used implicative statistical analysis, principal components analysis or factorial analysis of correspondence, one study in combination with inferential statistical analysis (such as independent samples T-tests, one-way analysis of variance), while studies that used a more advanced research methodology such as the Structural Equation Modeling (SEM) approach are scarce.

Considering the above, this study revealed a research gap in the literature since no large-scale research concerning public sector services that operate outside the education field has been identified. Therefore, conducting a large-scale research focused on public sector services outside the educational area can provide policymakers and decision-makers with valuable insights and can help inform decisions regarding resource allocation, policy formulation, and strategic planning. Also, the insights gained from this study can stimulate discussions, provide frameworks and methodologies for evaluating and monitoring the effectiveness of the Greek public sector, enable public sector services to track their performance over time, assess the impact of their interventions, and make data-driven decisions that will promote continuous improvement efforts in the Greek public sector services. Furthermore, this study showed that the novel EFQM model 2020 has not yet been applied as a framework in quantitative research in public sector services in Greece. This lack of available information concerning both the practical application and academic research focused on the EFQM model 2020 is also underlined by Bocoya-Maline *et al.* (2023). Therefore, the study unveiled another gap in the literature and the need for further research focused on the application of EFQM model 2020 and the exploration of the underlying relationships among the model's criteria.

In addition, it is important to note that this paper has limitations, as only two reviewers were involved in all stages of the review process, data extraction and analysis, which on the one hand resulted in no conflicts arising during the process, but on the other hand may have increased the possibility of errors and bias, as according to the guidelines for conducting a systematic literature review (Charrois, 2015; Stoll *et al.*, 2019), two reviewers is the minimum number of people that must be involved in the process of conducting a systematic literature review. Therefore, the involvement of more reviewers may have improved the findings of this study. Finally, the authors' decision to follow the recommendation to include the gray literature along with the databases in the search strategy of the systematic literature review (Godin *et al.*, 2015; Paez, 2017), resulted in the identification of a wider range of studies on the research topic included in this systematic review.

## CONCLUSIONS

The present study has shown that the EFQM model has indeed been used as a framework in quantitative research in the context of public sector services in Greece, but the number of studies is extremely limited, despite the wide application of the EFQM model in Europe and beyond. In addition, there is no evidence of large-scale research applying the EFQM model in Greek public services operating outside the education sector and using a methodology that ensures the representativeness of the sample and the generalizability of the research results. Considering the above, this study has revealed a research gap in the existing literature that can be a starting point for a future large-scale research in the Greek public sector services that operate outside the education field with the aim of providing more insight into how Greek public sector services perform, identifying their strengths and weaknesses and formulating policy proposals to improve their performance that will be addressed to policy makers in the field of public administration and governance. Finally, the study has shown that the EFQM model 2020, due to its novelty, has not yet been used as a framework for quantitative research in the context of Greek public services. Therefore, the study indicates that there is another gap in the literature that can form the basis for new research in the future that could aim at the application and validation of the EFQM model 2020 as a framework in the context of the Greek public sector and at the investigation of the cause-effect relationships that may exist among the criteria of the novel EFQM model 2020.

## FUNDING

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## GLOBAL CITIES FROM THE GLOBAL SOUTH

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### ABSTRACT

This manuscript advocates that countries from the Global South should increase their connectivity level by leveraging their Global Cities to reduce the development divide between the Global North and Global South. This manuscript uses quantitative methods to analyze the relationship between Global, Sustainable, Livable, Smart, Rich, and Cities from the Global North and Global South. We identified that the Global North vs Global South divide can be reduced if Global South countries increase the connectivity level of their most connected cities to improve their overall sustainability, livability, smartness, and wealth. This manuscript offers a significant theoretical contribution to scholarly discussion because it suggests that Global Cities are drivers of overall improvement at the national level. Moreover, the practical implications are that national policymakers should focus on developing their most connected cities to reduce the Global North-South divide. We offer three paths based on the size of the Global South countries.

*Keywords: Development, Global North, Global South, Cities, Sustainability, Smart Cities, Rich Cities, Livable Cities*

### 1. INTRODUCTION

Through the lenses of Global Cities (GCs), New York shares more similarities with London than most cities in the USA (Asmussen *et al.*, 2018). This example supports the simultaneous decrease of inequalities between countries and increasing inequalities within countries, the converging divergence advocated by Horner & Hulme (2019). Also, the New York example confirms the rise of the importance of GCs as drivers of global development. Such subnational locations have taken a central role as production spaces and conduits for key inputs required by multinational enterprises to operate their international organizations (Chakravarty *et al.*, 2021) and present economic, political, and



ideological influences beyond their physical boundaries and own countries (Hutzschenreuter *et al.*, 2020). This manuscript advocates that countries from the Global South should increase their GCs' connectivity to reduce the development divide between the Global North and the Global South. With more connections, GCs from the Global South can improve sustainability (to become sustainable cities), use technologies (to become smart cities), become more livable, and become rich. Global South GCs will positively impact their home countries, thus decreasing the Global North-Global South divide. Consequentially, this research focuses on answering the following question: How can the Global South reduce the divide with the Global North?

## 2. LITERATURE REVIEW

### 2.1 *Global Development, Global North, and Global South*

From the ashes of the Second World War, the winning power built a new international order that promoted a new paradigmatic vision of the idea of progress embedded in the ideals of liberalism (Duncombe & Dunne, 2018). From then on, progress was called development, and international organizations and scholars assumed that the progress of nations would result from the historical evolution of societies in stages, as Walter Rostow assumed (Gilman, 2018). Therefore, any country could achieve development if it carried out some necessary tasks (Rostow, 2000). In this way, the development would be the logical result of historical evolution. Consequently, the idea of a world divided into distinct stages of development arose. Some developed countries were located in the First World, while those underdeveloped and poorest countries were in the Third World (Chant & McIlwaine, 2009).

Years later, in parallel with the growing phenomenon of globalization, the Global South concept replaced the Third World as the prevalent term for describing structural global inequalities (Kleinschmidt, 2018). However, although this concept is more than a metaphor for underdevelopment (Dados & Connell, 2012), even today, the Global South is an elusive concept with multiple meanings (Haug *et al.*, 2021). Like the term development and the theories that explain it, its definition is not neutral. As Cox points out, "theory is always for someone and some purpose" (Cox, 1981, p. 128). Therefore, how we define ideas such as development, the Global South, and the Global North has implications for the political and economic positions we take regarding our interpretation and the place one should occupy in the World. From this perspective, the Global North and South are intrinsically united in a symbiotic relationship, whose axis denominator is the idea of development. Furthermore, the borders between these spheres are traversed by networks of various kinds, "relocating some parts of the South in the North, and vice versa" (Dirlik, 2007, p. 14).

The Global South is not a monolithic entity and contains a variety of environmental conditions, cultural values and practices, and economic and social systems; the concept includes emerging economic powers such as impoverished countries and failed states (Williams *et al.*, 2014). Beyond drawing a geographical division, the Global South and North appeal to dividing the international order between poor and rich nation-states (During, 2012). By recognizing this differentiation, the concept of the Global South refers to a project, an energy, whose other – whose enemy even – is the “Global North.” As a project, it appeals to a different idea about development, what distinguishes it, and how to achieve it. Consequentially, the terms Global North and Global South do not refer to the geographic differences between North and South, as many Global South countries are geographically located in the Northern Hemisphere. For this research, we will follow the UNCTAD definition: the Global North countries include the USA, Canada, Europe, Israel, Japan, South Korea, Australia, and New Zealand, while the Global South broadly includes China, India, Brazil, Mexico, Indonesia, and many other countries (Handbook of Statistics, 2022). However, due to the growing geopolitical antagonism between Russia and Western democracies, we will consider Russia a Global South country for this research. Moreover, due to the geopolitical proximity between Taiwan and other Western democracies, this country is considered part of the Global North. Finally, Singapore is also considered a Global North country due to its open economy.

In this context, cities are the privileged places where development ideas converge. By going beyond a geographical space and attempting to overcome the dichotomy between a prosperous North and a poor and backward South, the Global South becomes an imagined space from which different ways of understanding development, thinking actions to build a sustainable world, livable spaces, and the construction of smart, prosperous, and resilient cities. From this perspective, the ways of thinking about spaces potentiate other possibilities for imagining the cities of the Global South in contrast to those of the Global North. They lead to questioning ideas such as sustainability, livability, richness, and smart cities.

## 2.2 Global Cities

There is growing interest in cities' role in shaping multinational firms' activities (Iammarino *et al.*, 2018). In a virtuous cycle of mutual reinforcement, GCs such as Singapore, Paris, and Mexico City have taken on a central role as production spaces and conduits for key inputs required by firms to operate their international organizations (Lorenzen *et al.*, 2020; Chakravarty *et al.*, 2021).

One of the most significant trends of the last decade has been the increasing prominence of GCs on the world stage. GCs have developed a size, scope, and reach that commands increasing weight in global issues. They generate new capacities for increasingly transnationally connected global cities, which present economic, political, and ideological influences beyond their physical

boundaries and own country (Curtis & Acuto, 2018). Therefore, GCs present an interesting research topic because the traditional approach of using countries as location units of analysis obscures micro-level drivers that can better explain investment choices (Chakravarty & Beamish, 2019).

Three key attributes that define GCs are the availability of advanced producer services (APS), the cosmopolitan mentality, and the high degree of interconnectedness to local and international markets (Asmussen *et al.*, 2018; Goerzen *et al.*, 2013; Estrin *et al.*, 2017). First, these locations are home to many high-value and specialized APS, such as consultancy, information technology, advertising, accounting, law, and finance, which are essential functions that facilitate the operations of multinational firms. Second, the cosmopolitan environment emanates from its high-status location and culturally diverse population. Third, the high physical and digital connectivity (high-quality road, rail, airport, and telecommunication infrastructure) with other areas and global cities facilitates and speeds up the international transfer of goods, people, and information.

The abundance of skilled workers, innovative companies, and high-quality public and private institutions have attracted investment from multinational firms (Somers *et al.*, 2016; Castellani & Lavoratori, 2019; Chakravarty *et al.*, 2021). In addition, global cities have more robust, stable, and business-friendly institutional environments that reduce the Liability of Foreignness (LoF) and Liability of Outsidership (LoO) for foreign firms relative to other host country locations, as suggested by Blevins *et al.* (2016) and Belderbos *et al.* (2020). Thus, multinational firms hyper-concentrate foreign investments in GCs because of their connectivity to local and international regions. Consequentially, GCs represent industry assistance to firms interested in internationalization (Sambharya *et al.*, 2021). The nature of GCs improves global companies' success odds, decreasing internationalization risks.

From a scholarly perspective, Iammarino *et al.* (2018) suggest that the current academic debate on international business and globalization has given rise to a new interest in cities, which rediscovered the location advantages offered in GCs (Kaltenecker & Montoya, 2023).

From a business perspective, Chakravarty *et al.* (2021) shed some light on the understanding of what companies sought after in GCs. Their work suggests that knowledge-seeking multinational companies (MNCs) are motivated to locate in global cities relative to other locations. Belderbos *et al.* (2020), in their analysis of wholly-owned foreign subsidiaries, found that MNCs activities such as knowledge-intensive services, R&D, and headquarters functions are significantly more likely to be located within GCs. This finding confirms a later work from Parnreiter (2019), who discussed that global cities are critical governance nodes in global production networks due to the clustering of producer service firms. Parnreiter (2019) goes even further when advocating that GCs transfer value geographically. In our analysis, this debate supports the role of GCs as nodes for centripetal wealth transfers, a positive spillover effect. For this scholar, global cities are critical for the organization of

uneven development, which also holds for cities beyond the Global North. From that, even Global South GCs are strategic subnational locations from which the Global North's wealth can be transferred into less-privileged countries.

The literature in economic geography and global cities shows that GCs are connection hubs with other GCs, other countries, and within their home country. This manuscript advocates that Global South's GCs should increase connections with GCs from the Global North to allow the former to impact their home countries positively, thus decreasing the Global North-Global South divide and providing a more balanced global development. Our research will focus on four critical areas for a global city: sustainability, smartness, livability, and wealth.

Urbanization and globalization have led to a reconfiguration of cities worldwide. These urban transformations have been the subject of numerous studies and debates in urban geography and urban studies. One of the central discussions has been the distinction and relationship between cities in the Global North and the Global South and how these categories intersect with other aspects of urbanization, such as the categorization of cities in terms of Alpha, Beta, Gamma, and Sufficient. As a concept, Latin America has been fundamental in understanding urban dynamics. Randolph and Storper (2022) suggest that parts of the Global South may be urbanizing along specific historical and geographical trajectories. However, they argue that these differences are best understood through a unified set of global urban theories. Taylor & Walker (2001) highlight that most cities cluster into regional or interregional clusters<sup>1</sup>. London and New York, for instance, form their own distinctive 'global city' dimension. However, Koch (2020) argues that the Global North/Global South categories are one possibility for analyzing cities as transnational climate change actors. According to Koch, these categories should be accompanied by analytical attention to additional factors such as geographical location, city size, or political regimes.

We will test the following hypotheses to determine if the connectivity level of the GCs (Alpha, Beta, Gamma, and Sufficient) is associated with the region (South or North). Consequentially, our null and alternative hypotheses are:

*H1o (Null Hypothesis): No association exists between the GCs' connectivity levels and the region.*

*H1a (Alternative Hypothesis): There is an association between the GCs' connectivity levels and the region.*

### *2.3 Development, Global North, Global South, and Sustainability*

In recent years, the UN Sustainable Development Goals (SDGs) have emerged as the cornerstone of global development governance (Bhowmick & Ghosh, 2022). However, most existing sustainability concepts and goals have been defined in developed countries. Consequently, these concepts do not include the significant problems of global cities in the Global South (Yazdani &

Kamariah, 2013). On the other hand, the priorities of industrialized countries about sustainable development refer to environmental subjects. At the same time, from a Global South perspective, the main issues include poverty, social injustice, and gender discrimination. In addition, the global cities, with different connectivity levels, most vulnerable to climate change are in the Global South, with non-existent interventions to adapt and mitigate its adverse effects (Ngcamu, 2023), while Global North GCs (with their different connectivity levels), contribute to the central part of climate change, generating 92% of excess global carbon emissions (Hickel, 2020). In a nutshell, the citizens of the Global South who are not responsible for climate change are climate change-vulnerable populations. Therefore, we present our hypothesis as follows:

*H2o (Null Hypothesis): No association exists between the GCs' connectivity levels and the Sustainability ranking.*

*H2a (Alternative Hypothesis): There is an association between the city category and the Sustainability ranking.*

#### *2.4 Development, Global North, and Global South, and Livability*

As Chu (2019) pointed out, urban livability can be defined as the quality of life in cities. Still, its concept is complex because of the heterogeneous nature of global cities and the encompassing meaning of quality of life. The idea behind this concept is that accessibility to essential amenities, scope of opportunity, physical and social well-being, environmental justice, and sense of safety constitute urban livability; however, the limitation of this approach is the assumption that the creation of livability presumes that livability can be defined by fundamental or immutable characteristics, many of which remain constant through time and across populations (Ruth & Franklin, 2014). Also, the discipline of urban studies has expanded the concept of urban livability through indexing systems that consider general parameters for the universal population and create a growing policy aspiration across multiple levels of government globally (Higgs *et al.*, 2018). Nonetheless, how Global North and South GCs define the quality of life can be varied and contradictory. In this way, this approach commonly ignores the intrinsic characteristics that impact livability in Global South GCs.

*H3o (Null Hypothesis): No association exists between the GCs' connectivity levels and the Livability ranking.*

*H3a (Alternative Hypothesis): There is an association between the GCs' connectivity levels and the Livability ranking.*

#### *2.5 Development, Global North, Global South, and Smart Cities*

Smart cities have risen as a solution to future urban and economic crises, increasing their popularity in the Global North and South (Datta & Odendaal, 2019). The proposal is that smart cities use information and communication technologies (ICT) to be more intelligent and efficient in resource

use, contributing to quality of life and reducing the environmental footprint (Hayat, 2016). Because rapid advances in ICTs and big data analytics are disrupting virtually every aspect of society, the logic is that these technological advances can help cities deal with global change challenges and advance toward reaching the Sustainable Development Goals (Sharifi & Yamagata, 2022), evoking an image of the city such an automated future (Batty, 2018). Paradoxically, adopting new technologies increases the gaps in access to digital technology, raising inequality between Global South vs. Global South citizens and cities (Datta, 2018).

*H4o (Null Hypothesis): No association exists between the GCs' connectivity levels and the Smart City ranking.*

*H4a (Alternative Hypothesis): There is an association between the GCs' connectivity levels and the Smart City ranking.*

#### *2.6 Development, Global North, Global South, and Rich Cities*

Multiple causes have contributed to the North–South divide in development and spatial inequalities that have persisted in the Global South (Shaban, 2022). Traditional approaches to understanding income inequality and the wealth gap between cities in the Global North and South have highlighted the systemic origin of this differentiation. Notably, the perspective of the Global South argues that the source of these differences is a relationship of dependency that has historically generated the Global North's wealth based on the Global South's impoverishment (Wallerstein, 1979). Under this theoretical approach, people and cities in the Global South are more inequitable due to historical circumstances of exploitation and colonization determined by the Global North (Angeles, 2007). From this perspective, the gap grows due to the imposition of neoliberal economic policies that international institutions such as the World Bank, the International Monetary Fund (IMF), and the World Trade Organization (WTO) have promoted for decades. These policies favor the forcible liberalization of markets, allowing multinational corporations unprecedented access to cheap land, resources, and labor to the detriment of cities in the Global South (Hickel, 2016). Furthermore, these inequalities impact the interior of the cities of the Global South in three aspects. Social inequality arises as social classes in the global city become polarized between a wealthy professional class and an impoverished low-wage service sector class. Also, the unequal development reflected in the city's spatial form produces socioeconomic segregation and unequal access to living space. Finally, political inequality causes urban politics to become dominated by interest groups that favor policies aimed at economic growth over the interests of neighborhoods (Shatkin, 2007).

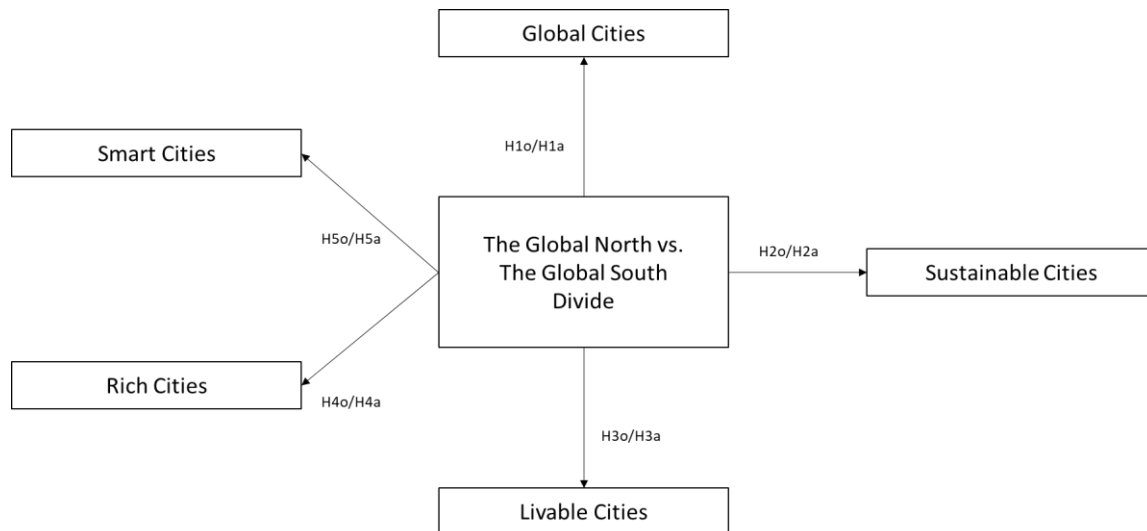
Finally, we present our last set of hypotheses:

*H5o (Null Hypothesis): No association exists between the GCs' connectivity levels and the Rich Cities ranking.*

*H5a (Alternative Hypothesis): There is an association between the GCs' connectivity levels and the Rich Cities ranking.*

Our research tests the conceptual framework and the hypotheses presented in Figure 1. The model's starting point is the Global North vs. Global South divide. We then Analyze if the Global North vs. Global South divide is statistically reflected in the GCs, Sustainability, Livability, Smart, and Rich cities rankings.

**Figure 1 – Conceptual Framework**



### 3. METHODOLOGY AND DATA

#### 3.1 The database

To understand the relationship between the global cities phenomenon and the Global North? South divide regarding Sustainable, Smart, Wealthy, and Livable cities, we developed our dataset with information from the Globalization and World Cities 2020 Report (Globalization and World Cities Research Network, 2020) as the data source for global cities. Data about the most livable cities was extracted from the 2019 Mercer Most Livable City Report (Mercer, 2019). The UBS/City Majors (The Rich Cities, 2018) report provided the ranking for the Rich Cities. The ranking for Smart City was developed by IMD, an internationally renowned business school (IMD Smart City Index Report, 2023). Finally, the ranking for sustainability we used is Arcadis (Arcadis. 2022), an international consultancy.

#### 3.1 Descriptive Statistics

First, for each ranking in our research (Global Cities, Sustainability, Livability, Smart Cities, and Rich Cities), we calculated the percentage of Alpha Cities. We opted to use only the Alpha GCs type because this segment has the highest level of connectivity. Second, we separated from the list of global cities the ones from the Global North and Global South. Our criterion for the separation was not geographic. As pointed out by Horner & Hulme (2019), the developed (rich)–developing (poor)

country divide persisted to such an extent that even the major development framing exercise of the late 20th century, the Millennium Development Goals (MDGs), was almost entirely set within this type of macro-geographical categorization—with targets projected by rich countries for poor countries<sup>1</sup> (Hulme, 2009; Saith, 2006). Consequentially, some countries considered to be Global South are above the Ecuador line, such as China. Third, we calculated the percentages of Alpha cities in the Global North and the Global South and those of Alpha cities in the four rankings (Sustainability, Livability, Smart and Rich Cities). Tables 1a, 1b, and 1c present the descriptive statistical analysis results.

**Table 1a – GCs from the Global North and Global South**

|            | Ranking  |    | Ranking        |    | Ranking    |    | Ranking  |    | Ranking  |    |
|------------|----------|----|----------------|----|------------|----|----------|----|----------|----|
| All GCs    | GC       |    | Sustainability |    | Livability |    | Smart    |    | Rich     |    |
|            | Quantity | %  | Quantity       | %  | Quantity   | %  | Quantity | %  | Quantity | %  |
| Alpha      | 50       | 13 | 46             | 46 | 50         | 22 | 54       | 33 | 41       | 39 |
| Beta       | 91       | 23 | 38             | 38 | 77         | 33 | 51       | 36 | 37       | 38 |
| Gamma      | 83       | 21 | 6              | 9  | 51         | 16 | 20       | 11 | 10       | 13 |
| Sufficient | 169      | 43 | 9              | 7  | 23         | 16 | 8        | 13 | 12       | 8  |
| Non-GCs    | N/A      |    | 1              | 0  | 30         | 13 | 8        | 6  | 0        | 1  |
| Total      | 393      |    | 100            |    | 231        |    | 141      |    | 100      |    |

**Table 1b – Only GCs from the Global North**

|            | Ranking  |    | Ranking        |    | Ranking    |    | Ranking  |    | Ranking  |    |
|------------|----------|----|----------------|----|------------|----|----------|----|----------|----|
| All GCs    | GC       |    | Sustainability |    | Livability |    | Smart    |    | Rich     |    |
|            | Quantity | %  | Quantity       | %  | Quantity   | %  | Quantity | %  | Quantity | %  |
| Alpha      | 28       | 16 | 28             | 42 | 29         | 31 | 35       | 42 | 25       | 38 |
| Beta       | 37       | 21 | 24             | 33 | 39         | 41 | 29       | 35 | 23       | 35 |
| Gamma      | 35       | 19 | 5              | 8  | 16         | 17 | 14       | 17 | 7        | 11 |
| Sufficient | 80       | 44 | 8              | 12 | 6          | 6  | 3        | 4  | 10       | 12 |
| Non-GCs    | N/A      |    | 1              | 2  | 5          | 5  | 2        | 2  | 0        | 0  |
| Total      | 180      |    | 66             |    | 95         |    | 83       |    | 65       |    |

**Table 1c - Only GCs from the Global South**

|            | Rankings |    | Ranking        |    | Ranking    |    | Ranking  |    | Ranking  |    |
|------------|----------|----|----------------|----|------------|----|----------|----|----------|----|
| All GCs    | GC       |    | Sustainability |    | Livability |    | Smart    |    | Rich     |    |
|            | Quantity | %  | Quantity       | %  | Quantity   | %  | Quantity | %  | Quantity | %  |
| Alpha      | 22       | 10 | 18             | 53 | 21         | 15 | 19       | 33 | 16       | 46 |
| Beta       | 54       | 25 | 14             | 47 | 38         | 28 | 22       | 28 | 14       | 40 |
| Gamma      | 48       | 23 | 1              | 3  | 35         | 26 | 6        | 10 | 3        | 9  |
| Sufficient | 89       | 42 | 1              | 3  | 17         | 13 | 5        | 9  | 2        | 6  |
| Non-GCs    | N/A      |    | 0              | 0  | 25         | 18 | 6        | 10 | 1        | 2  |
| Total      | 213      |    | 34             |    | 136        |    | 58       |    | 35       |    |



### 3.2 Analytical Statistics

We used RStudio to conduct an association analysis using the Chi-squared test to determine if there is a significant association between the two categorical variables: the regional divide between the Global North and the Global South), and the expected frequencies of GCs in the Global Cities, Sustainability, Livability, Smart and Rich Cities rankings.

To analyze the Global North vs. South divide further, we use the Chi-squared test to confirm the existence of significant differences in how cities are distributed among these categories based on whether they belong to the Global North or the Global South. The Chi-squared test tells us if there is an association, but it does not tell us the nature or magnitude of that association. For that, we could examine the specific differences between the observed and expected frequencies or consider additional measures of association. We opted for the Chi-squared test because it is a statistical method used to determine if there is a significant association between two categorical variables from a random sample to evaluate the fit between expected and observed results. In the context of the data on global cities, the test was applied to examine whether there is a statistically significant relationship between the geographic categorization of cities (as belonging to either the Global North or Global South) and their classification into global cities categories (Alpha, Beta, Gamma, and Sufficiency). The key points from the test and their implications are:

**Expected Frequencies:** We would expect these frequencies in each category if there were no association between the variables. They are calculated based on the marginal totals of the table and the overall total count.

**Chi-squared Statistic:** This value measures how much the observed frequencies in each category deviate from the frequencies we expect if there are no associations between the two variables. A higher value typically indicates a more significant deviation from independence.

**P-value:** This value tells us the probability of observing a Chi-squared statistic at least as extreme as the one calculated, assuming no association between the variables (the null hypothesis). A low p-value (less than 0.05 in our case) suggests that the observed association is unlikely to have occurred by chance, leading to the rejection of the null hypothesis.

**Degrees of Freedom:** This is calculated based on the number of categories in each variable. It is used to interpret the Chi-squared statistic in the context of the Chi-squared distribution to find the p-value.

It is important to note that while the Chi-squared test provides insights into the existence of associations, it does not measure the strength or direction of the association. Also, the test assumes that the samples are independent, the data are randomly sampled, and the values are sufficiently large (usually above 5). If these assumptions are not met, the test results might not be reliable.

## 4. RESULTS AND DISCUSSION

### 4.1: Hypotheses H1o and H1a

Out of 393 GCs found in our database (Table 1a), only 180 are from the Global North (Table 1b), while 213 are located in the Global South (Table 1c). This initial analysis shows the unexpected result that the Global South hosts more GCs than the Global North. Another surprising result is that the Global South hosts more Beta, Gamma, and Sufficiency GCs (54, 48, and 89, respectively) than the Global North (37, 35, and 80, respectively). However, regarding the cities with the highest levels of connectivity, the Alphas cities, the Global North presents more Alphas (28) than the Global South (22). This result suggests the existence of the Global North vs. Global South divide regarding the highest level of connectivity and shows a potential solution to decrease the abovementioned debate. For a deeper analysis of the GCs connectivity levels *versus* the Global North vs. South divide (the region of origin), we conducted a Chi-squared test, whose contingency table, expected value, and Chi-squared results are presented in Tables 2a, 2b, and 2c, respectively.

**Table 2a – The Contingency Table for the Chi-squared test**

| Category   | All Global Cities | Only Cities from the Global North | Only Cities from the Global South |
|------------|-------------------|-----------------------------------|-----------------------------------|
| Alpha      | 50                | 25                                | 25                                |
| Beta       | 91                | 34                                | 57                                |
| Gamma      | 83                | 31                                | 52                                |
| Sufficient | 169               | 71                                | 98                                |
| Total      | 393               | 161                               | 232                               |

**Table 2b – Expected values**

| Category   | Only Cities from the Global North | Only Cities from the Global South |
|------------|-----------------------------------|-----------------------------------|
| Alpha      | 20.48346                          | 29.51654                          |
| Beta       | 37.27990                          | 53.72010                          |
| Gamma      | 34.00254                          | 48.99746                          |
| Sufficient | 69.23410                          | 99.76590                          |
| Total      | 161                               | 232                               |

**Table 2c – Chi-squared results**

| Characteristic        | Chi-squared value | Degrees of freedom | P-value |
|-----------------------|-------------------|--------------------|---------|
| Global Cities Ranking | 2.701             | 3                  | 0.44    |

The Chi-squared test statistic is approximately 2.701 with a p-value of 0.44. With 3 degrees of freedom, the result indicates a statistically non-significant association between the categories of cities and their classification as being from the Global North or the Global South since the p-value is much higher than the standard significance level of 0.05. Therefore, we accept the null hypothesis H1o and reject the alternative hypothesis H1a.

The unexpected result opens an interesting scholarly debate because the regions of origin, Global North and Global South, have no impact on the Global Cities phenomenon.

#### 4.2 Hypotheses H2o and H2a, H3o and H3a, H4o and H4a, H5o and H5a

The descriptive analysis shows that in the four remaining rankings for cities (Sustainability, Livability, Smart, and Rich), the Global North presents more Alpha Cities (28, 29, 35, and 25, respectively) than the Global South (18, 21, 19, and 16, respectively). These results suggest that the connectivity levels of GCs impact (or are associated) the number of Global Cities from the Global North vs Global South, another example of the Global North vs. Global South divide.

The analytical statistics confirm the association between the connectivity levels and the four rankings associated with this study. Table 3 presents the contingency table for the rankings and the Chi-squared comparison of the distribution of GCs by their connectivity level and the Sustainability, Livability, Smart, and Rich rankings we analyze in this research.

**Table 3 – Contingency table for the Chi-squared tests**

| Connectivity Level | All Global Cities | Sustainability | Livability | Smart | Rich |
|--------------------|-------------------|----------------|------------|-------|------|
| Alpha              | 50                | 46             | 50         | 54    | 41   |
| Beta               | 91                | 38             | 77         | 51    | 37   |
| Gamma              | 83                | 6              | 51         | 20    | 10   |
| Sufficient         | 169               | 9              | 23         | 8     | 12   |
| Non-GC             | 0                 | 1              | 30         | 8     | 0    |
| Total              | 393               | 100            | 231        | 141   | 100  |

| Characteristic | Chi-squared value | Degrees of freedom | P-value                |
|----------------|-------------------|--------------------|------------------------|
| Sustainability | 91.5982           | 4                  | $6.02 \times 10^{-19}$ |
| Livability     | 115.56            | 4                  | $4.74 \times 10^{-24}$ |
| Smart          | 109.97            | 4                  | $7.38 \times 10^{-23}$ |
| Rich           | 66.51             | 3                  | $2.38 \times 10^{-14}$ |

In all cases, the p-values are extremely low, far below any standard significance level such as .05 or .01). Consequentially, we can reject all null hypotheses of independence.

The acceptance of alternative hypotheses H2a, H3a, H4a, and H5a show strong associations between GCs connectivity rankings and the Sustainability, Livability, Smart, and Rich rankings, respectively. It shows a potential solution to decrease the abovementioned divide.

Table 4 summarizes the research gap, the hypotheses derived from the literature review, and the descriptive and analytical statistics output.

**Table 4 – Hypotheses**

| Research Gaps  | Hypotheses   | Output                        |
|--|--|-------------------------------|
| <p>- Blevins et al. (2016) and Belderbos et al. (2020): Global cities have more robust, stable, and business-friendly institutional environments that reduce the Liability of Foreignness (LoF) and Liability of Outsidership (LoO) for foreign firms relative to other host country locations</p> <p>- Parnreiter (2019) discussed that global cities are critical governance nodes in global production networks due to their clustering of producer service firms. Parnreiter (2019) goes even further because such scholar advocates that GCs transfer value geographically. In our analysis, this debate supports the role of GCs as nodes for centripetal wealth transfers</p> | <p>H1o (Null Hypothesis): No association exists between the GCs' connectivity levels and the region.</p> <p>H1a (Alternative Hypothesis): There is an association between the GCs' connectivity levels and the region.</p>                         | <p>Accept H1o, Reject H1a</p> |
| <p>- UN Sustainable Development Goals (SDGs) have emerged as the cornerstone of global development governance (Bhowmick &amp; Ghosh, 2022). However, most existing sustainability concepts and goals have been defined in developed countries. Consequently, these concepts do not include the significant problems of global cities in the Global South (Yazdani &amp; Kamariah, 2013)</p>  | <p>H2o (Null Hypothesis): No association exists between the GCs' connectivity levels and the Sustainability ranking.</p> <p>H2a (Alternative Hypothesis): There is an association between the city category and the Sustainability ranking.</p>    | <p>Reject H2o, Accept H2a</p> |
| <p>- How Global North and South GCs define the quality of life can be varied and contradictory. In this way, this approach commonly ignores the intrinsic characteristics of that impact livability in Global South GCs.</p>   | <p>H3o (Null Hypothesis): No association exists between the GCs' connectivity levels and the Livability ranking.</p> <p>H3a (Alternative Hypothesis): There is an association between the GCs' connectivity levels and the Livability ranking.</p> | <p>Reject H3o, Accept H3a</p> |
| <p>- Because rapid advances in ICTs and big data analytics are disrupting virtually every aspect of society, the logic is that these technological advances can help cities deal with global change challenges and advance toward reaching the Sustainable Development Goals (Sharifi &amp; Yamagata, 2022), evoking an image of the city such an automated future (Batty,</p>   | <p>H4o (Null Hypothesis): No association exists between the GCs' connectivity levels and the Smart City</p>  | <p>Reject H4o, Accept H4a</p> |

|   |  |                           |
|---|--|---------------------------|
| 2018). Paradoxically, adopting new technologies increases the gaps in access to digital technology, raising inequality between Global South vs. Global South citizens and cities (Datta, 2018).   | ranking.<br><br>H4a (Alternative Hypothesis): There is an association between the GCs' connectivity levels and the Smart City ranking.   |                           |
| - Multiple causes have contributed to the North–South divide in development and spatial inequalities that have persisted in the Global South (Shaban, 2022). The perspective of the Global South argues that the source of these differences is a relationship of dependency that has historically generated the Global North's wealth based on the Global South's impoverishment (Wallerstein, 1979). These inequalities impact the interior of the cities of the Global South in three aspects. Social inequality arises as social classes in the global city become polarized between a wealthy professional class and an impoverished low-wage service sector class. Also, the unequal development reflected in the city's spatial form produces socioeconomic segregation and unequal access to living space. Finally, political inequality causes urban politics to become dominated by interest groups that favor policies aimed at economic growth over the interests of neighborhoods (Shatkin, 2007). | H5o (Null Hypothesis): No association exists between the GCs' connectivity levels and the Rich Cities ranking.<br><br>H5a (Alternative Hypothesis): There is an association between the GCs' connectivity levels and the Rich Cities ranking | Reject H5o,<br>Accept H5a |

Because there is no predominance of Global North GCs over the Global South GCs, the cities from the South face limited barriers to becoming mode-connected GCs. The results show more Beta, Gamma, and Sufficient GCs in the Global South (although there are more Alpha GCs in the Global North). Policymakers from the South should understand and replicate the policies that increased Sustainability, Livability, Smartness, and Wealth developed by successful GCs. Naturally, the transplant of policies that allowed GCs to become more connected presents limitations. First, specific policies may not be easily transplanted, such as hosting global institutions (for instance, New York City hosting the United Nations). Second, although the spillover effects are the desired outcome of the flight for connectivity, the stability of the rankings over time makes it unlikely that any city will move upward in a short period. Third, countries from the South certainly do not have all the resources necessary to increase the connectivity of their GCs overnight. Infrastructure projects such as airports, digital backbones, and reliable telecommunication networks are expensive and time-consuming.

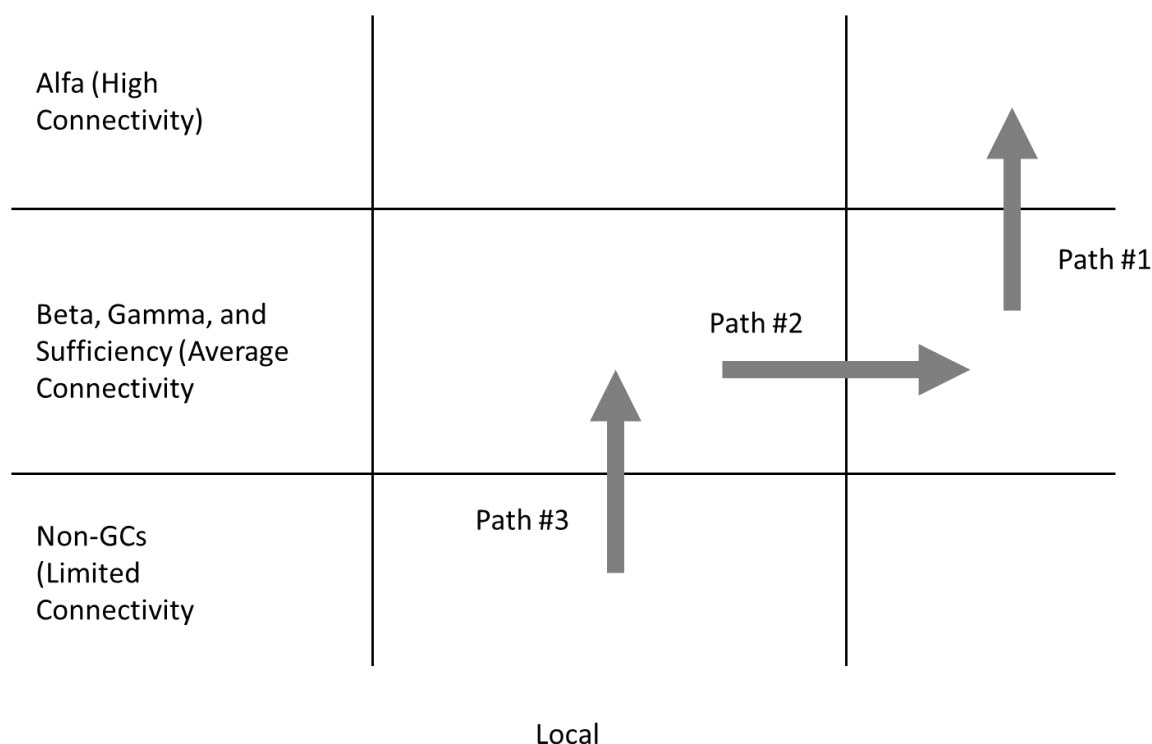
Figure 2 shows that the gap between the Global North and the Global South for connectivity (in the case of the cities with the highest level of connectivity, the Alphas) is not so wide as the gap for Sustainability, Livability, Smart and Rich Cities. For instance, while the Global North hosts 56% of Alpha cities, the Global South hosts 44%. However, regarding Sustainability, Livability, and Smart and Rich Cities, the gap between the Global North and the Global South is more comprehensive (61% vs. 39%, 58% vs 42%, 65% vs. 35%, and 61% vs 39%, respectively). Therefore, Alpha GCs, with their

superior connectivity, provide a benchmark for other cities and spillover effects because Alphas become hubs of excellence in the areas mentioned. Global Cities are influenced by their highly-connected peers but also influence less connected cities in their home country. Consequently, Global South GCs are drivers for changes that reduce the Global North vs. Global South divide. We advocate three alternatives for the upward movement of Global Cities: first, from Beta to Alpha; second, from Gama and Sufficient to Beta; and finally, from non-GCs to Sufficient and Gamma.

**Figure 2 - Comparison between Global North Alpha Cities vs Global South Alpha Cities**



The policies we suggest for less connected cities from the Global South to become Alpha cities are focused on increasing connectivity to allow improvements in sustainability, livability, use of technology, and wealth. The massive leap in connectivity can be attained only with coordination between the three levels of government and public/private partnerships to promote significant upgrades in physical and digital infrastructures. Changes in immigration policies are also a requirement to attract young and highly educated digital nomads. Reducing bureaucracy from overseas investors is a prerequisite to attracting FDI (Foreign Direct Investment). Figure 3 presents the alternative paths for connectivity upgrade of cities.

**Figure 3 – Paths for Policy-Makers**

Thus, referring to the manuscript's research question, the Global South can reduce the divide with the Global North by using their Global South Global Cities as springboards for improvements in Sustainability, Livability, use of Smart technologies, and Wealth. While Global North GCs set the standards for other GCs, Global South GCs have the connectivity power to influence less connected cities in the South, improving sustainability, livability, use of technology, and wealth. Consequently, it reduces the global north vs. global south divide.

**Table 5 – Comparison of policies**

|                                      | Policy #1                    | Policy #2                                 | Policy #3                    |
|--------------------------------------|------------------------------|---|------------------------------|
| Spillover effects                    | Yes                          | Yes                                       | Yes                          |
| Difficult level                      | High                         | Average                                   | Low                          |
| Time to fruition                     | Long (years)                 | Average (semesters)                       | Average (semesters)          |
| Benefits                             | High                         | High                                      | Average                      |
| Suitable for which type of economies | Large Global South economies | Mid-Size and Small Global South Economies | Small Global South Economies |
| Suitable for which type of cities    | Beta                         | Gamma and Sufficient                      | Nonglobal cities             |

## 5. CONCLUSIONS

The relationship between the GCs connectivity city category and the Global North vs. Global South divide region is complex and multifaceted. Our analysis revealed a significant association between the connectivity level and the distribution of cities in the rankings of sustainability, livability,

and smart and rich cities. This association reflects the inherent complexities of urbanization and globalization and how these forces interact in different regional contexts. In summary, the manuscript particularly highlights the role of Global Cities as catalysts for reducing the development divide between the Global North and South.

Using Chi-squared tests, the study examines the association between the regional divide between the Global North and the Global South and the rankings of GCs regarding sustainability, livability, smartness, and wealth. The results suggest significant associations, indicating that enhancing connectivity could positively impact. The research concludes that increasing the connectivity of GCs in the Global South with those in the Global North can potentially reduce the development divide. This is based on the hypothesis that there is an association between the connectivity levels of GCs and various aspects like sustainability, livability, smartness, and wealth.

Through this article, we contribute to theory, practice, and policymaking. We make a significant theoretical contribution by discussing the role of subnational regions, the GCs, as change agents to reduce the Global North vs Global South Divide. We noted no statistical association between the Global North and the Global South regarding the GCs phenomena, which shows entry barriers for the Global South to compete au pair with Global North GCs. However, we found a significant statistical association between the connectivity levels of GCs and the sustainability, livability, smart, and rich cities rankings. From a business viewpoint, it sheds light on why multinational corporations increasingly focus on GCs for their operations, especially for knowledge-intensive services and R&D.

Moreover, our findings have practical implications for national policymakers, suggesting that focusing on developing the Global South's most connected cities could be a strategic approach to reducing the Global North-South divide. We present three paths for the Global South to reduce the divide with the Global North. Finally, we suggest that the Global South must recognize that their GCs can be change agents if they develop policies to increase the connectivity of their cities,

The manuscript also presents some future research avenues. We focused on the cities with global connections but ignored the effect of non-GCs in reducing the Global North-Global-South divide. Moreover, we assumed a certain level of stability in all rankings. Finally, while the study provides valuable insights, it also acknowledges the limitations of using Chi-squared tests, which do not measure the strength or direction of the association. Further research could explore these aspects in more detail.

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## CROSS-BORDER M&AS AND R&D INVESTMENT: THE ROLE OF FAMILY OWNERSHIP

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### ABSTRACT

Growth is vital for the sustainability and wealth creation of family businesses. Family firms use growth strategies to avoid decline and strengthen the family unit (Poza, 1989). Mergers and acquisitions (known as M&As) are seen as a key external growth strategy that allows firms to grow faster than through internal means. The speed of growth is important in seizing market opportunities before they disappear due to rapid changes and fierce competition (Bresciani et al., 2016). M&As present both opportunities and threats for all firms, but family businesses face unique challenges (Worek, 2017).

Despite the extensive exploration of M&As in management literature, there has been limited focus on family firms participating in these transactions. However, growth is essential for long-term success and intergenerational wealth preservation (Stenholm et al., 2016), with M&As being a key strategy for external growth. Recently, there has been a growing body of literature that has started to examine various aspects of family business M&As.

More specifically, researchers have examined how family ownership influences various aspects of family firms engaging in M&A activities, such as the likelihood of pursuing an acquisition (Miller et al., 2010), the choice of payment method (Caprio et al., 2011), and the market's reaction to the announcement of a family business' M&A (Feito -Ruiz and Menéndez-Requejo, 2010). Studies have also looked into how family ownership impacts the diversification of acquisitions within industries (Defrancq et al., 2016), highlighting the potential moderating roles of leverage and historical performance (Aktas et al, 2016; Gomez-Mejia et al., 2015). Additionally, family ownership has been shown to have a significant impact on the returns of acquiring shareholders (Ben-Amar and André, 2006).

However, the topic of cross-border M&As conducted by family firms, where a family-owned business acquires a company located in another country, has yet to be thoroughly explored. This subject is particularly fascinating as cross-border M&As are a significant growth strategy for companies, especially when their domestic market is struggling.

To the best of our knowledge, this is the first time that a study has investigated the effect of cross-border M&A on the propensity to undertake R&D investments within a family firm context.

The goal of this study is to examine how the involvement of a family shareholder impacts the acquiring company's decision to engage in post-transaction R&D investment. Additionally, the research explores whether the likelihood of R&D investment by a family-owned acquirer is influenced by the generational control. It is important to consider that different shareholder generations may have varying interests, management styles, and goals.

*Keywords: mergers, acquisitions, family ownership, R&D investments*

## **THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT**

The theoretical framework utilized in this study to explore the impact of family ownership and generational stage on propensity to undertake R&D investment post cross border transaction is known as socioemotional wealth (Gomez-Mejia et al., 2007). This concept refers to the emotional attachment of family owners to the firm and serves as a guiding principle for determining the appropriateness of managerial decisions. The five key dimensions of socioemotional wealth include family members' control over strategic choices, their connection to the firm, their relationships within and outside the organization, their emotional bond with the business, and their sense of family legacy. According to Gómez-Mejía (2007), the preservation of socioemotional wealth is a primary concern for family firms, as it represents a core aspect of their identity and is deeply ingrained in their psyche.

Analyzing family businesses' M&As through the SEW perspective highlights the importance of assessing the risks involved in these transactions. In particular, the post-M&A integration process poses a significant challenge for acquiring and target top managers, especially in cross-border M&As where cultural differences can impact the transaction's success (Shimizu *et al.*, 2004, Brouthers and Brouthers, 2000). The risk of unsuccessful integration is greater in cross-border acquisitions compared to domestic ones due to the additional complexities of navigating differences in national and organizational cultures simultaneously.

This is particularly significant within the family business sector, as family firms often combine their own family values and cultural background, as well as the regional influences and historical factors that shape their business culture. National and regional traditions also play a crucial role in shaping key processes within family businesses (Sharma and Rao, 2000; Howorth and Ali, 2001; Zahra *et al.*, 2004).

The contrast in organizational cultures between two firms involved in an M&A could lead to administrative conflicts post-transaction (Sales and Mirvis, 1984) and a sense of aversion in the post-acquisition phases (Buono *et al.*, 1985).

From a socio-emotional wealth perspective, conflicts arising from the merging of a family firm into an M&A could potentially harm the family's image and reputation (Sharma and Manikuti, 2005). Due to the close association between family identity and the firm, conflicts between employees from the acquiring and target companies may have a significant emotional impact on family members. Family members are particularly attuned to the image they project to both external and internal stakeholders (Micelotta and Raynard, 2011).

A high level of conflict in the post-M&A integration phase may undermine the sense of pride and “*the preservation of the family's good name for future generations*” (Ket de Vries, 1993), generating a loss of non-economic endowment.

The strong sense of identity among both family and non-family employees in a family business can complicate post-M&A integration. The closed network, relational trust, and feelings of closeness generated by kinship ties within the family firm contribute to this challenge (Cruz and Nordqvist, 2012). Non-family employees often perceive the family firm's sense of belonging and stability, further complicating integration efforts (Miller and Le Breton-Miller, 2005; Berrone *et al.*, 2012). Additionally, family firms typically select applicants who align with their values and culture, which may differ from those of the acquiring firm, exacerbating the difficulties of post-M&A integration.

The firm is a vital part of their lives, whereas non-family shareholders may have more temporary, surface-level ties to the business (Lubatkin *et al.*, 2005).

All these factors push family managers to focus on the post-integration problems rather than to manage innovation project. In addition, the risk connected to cross-border transaction could be greater in case family firms undertake innovation inputs,, inceasing the likelihood of a socioemotional wealth loss.

According to the above discussion, the following hypothesis is proposed:

*HP1: Acquiring family firms are less likely to make a cross-border acquisition than their acquiring non-family counterparts*

## **GENERATIONAL STAGE EFFECT**

From a socioemotional wealth perspective, the emotional connection to the business may vary depending on the generation involved. In particular, as the business transitions beyond the founding generation, the importance of emotional attachment diminishes in comparison to financial goals. With later generations becoming more active in the family business, the level of familial identification, control, and personal investment in the company fluctuates. In essence, the emergence of new family branches brings forth unique goals and priorities that may weaken familial ties (Gersick *et al.*, 1997; Ensley and Pearson, 2005). This results in family leaders seeing themselves as caretakers of their own

branch, reducing the significance of family identity as a key element of socioemotional wealth (Sciascia *et al.*, 2014; Drago *et al.*, 2018).

The decreasing importance of socioemotional wealth (SEW) priorities over successive generations has several implications for family businesses' tendency to invest in research and development (R&D). Initially, family members are emotionally attached to the business and have a significant influence on strategic decision-making (Berrone *et al.*, 2012; Bacci *et al.*, 2018). This attachment may lead first-generation family members to resist hiring external managers or experts in order to retain control over the company. However, this can hinder R&D investment as professional management is often necessary for successful implementation of complex investments (Gomez-Mejia *et al.*, 2015). As later generations take over, financial considerations become more important than preserving SEW.

Therefore, later generations are expected to attribute less importance to the loss of control following the recruitment of non-family external managers and to prefer expanding the business they have inherited (Cruz and Nordqvist, 2012). More specifically, Second and subsequent generations are considered to be more qualified, to possess more information (Fernandez and Nieto, 2005; Sonfield and Lussier, 2004) and they are more likely to adopt a professional style of management, that entails the inclusion, and sometimes the predominance, of non-family managers in the firm (McConaughy and Phillips, 1999). Under these conditions, external human resources may confer new skills, capabilities and know-how needed to face complex transactions and allow the family to adopt innovation strategies, achieve the business growth and to move beyond the legacy of the past generation, increasing therefore R&D investment.

*HP2A: Later generation family firms positively affects the relationship between cross border M&A and R&D investment post transaction*

In the early stages of family-owned businesses, the founder holds a significant ownership stake which provides them with the ability and motivation to closely oversee the firm's investments and encourage managers to focus on R&D at the most effective level (Block, 2012). As the business progresses through generations, ownership becomes more widespread, leading to potential conflicts among different family branches. In reality, R&D spending reduces profit and in later-generation family firms it leads to two potential outcomes. Firstly, disappointed non-family shareholders may choose to sell their shares upon hearing about the low earnings, which could in turn cause the stock price to drop due to the negative correlation with R&D investment levels (Lee & o'Neill, 2005). Given the lower family's ownership stake in a public family companies, they are at risk of losing control to a hostile takeover due to a drop in stock prices. Additionally, if relationships among family members in future generations become diluted, outside family shareholders who prioritize dividends over reinvestments may be more inclined to sell their stock. In fact, the risk of multi-generational family businesses losing

control is worsened by the possibility of discontented outside family shareholders to divest their shares, rather than selling the private firm directly at a lower price due to lack of liquidity. This scenario could in turn heighten the vulnerability of the company to a hostile takeover as some family shareholders exit the business.

Under these circumstances, later generation family managers could be avoid to undertake R&D investment post cross-border transaction in order to avoid a loss of control and consequently of affective endowment (Gomez-Mejia et al., 2015).

As a result, while R&D investments can improve the long-term competitiveness of family firms, later generation family managers may choose to underinvest in R&D to safeguard their control over the firm.

*HP2B: Later generation family firms negatively affect the relationship between cross border M&A and R&D investment post transaction.*

## **SAMPLE STRATEGIES AND EMPIRICAL FINDINGS**

The sample is constituted by 111 non financial cross-border M&As conducted in the period 2016-2022. 70 acquiring firms were controlled by family shareholders. 41 transactions have a nonfamily investor as acquiring firm.

Two requirements must be jointly fulfilled in order to define a firm as a "family firm": equity in the hand of family higher than 20%; at least one of family members seats on the board of directors (Prencipe et al., 2014).

Following previous studies on the European listed firms (Sraer and Thesmar, 2007; Andres, 2008; Caprio *et al.*, 2011), the first criterion is satisfied when one or more members of the family hold at least 20% of the voting rights. The second is satisfied when one or more members of the family are involved in the board of directors.

To create the data set, information was collected and merged from different sources. The information on M&As and accounting data are extracted from Datastream Thomson Reuters. Data on ownership and board of directors were gathered from AIDA database by *Bureau Van Dijk*, annual and governance reports, as well as company websites.

Empirical findings confirm Hypothesis 1 and meaning that when the acquiring is controlled by a family shareholder, it positively impacts R&D investment after cross-border transaction. Results confirm H2B, given that generational stage significantly and negatively moderates the relationship between family acquiring firm and R&D investments after cross-border M&A.



## CONTRIBUTION

This study enriches the literature in family firms for several reasons. First, it considers an underinvestigated setting, cross border M&A and sheds light on the family firms' innovation behaviors when strategies of external growth are undertaken. In this sense, this paper enriches the literature on family firms acquisition behaviors. Second, it points out the innovation behavior of family firms, by offering new results due to the novel perspective of the acquiring firm. By this view, these results offer new evidence that could be useful to disentangle divergent results pointed out by past studies on innovation behavior. Lastly, this study

## LIMITATIONS

This study presents two main limitations. First, it focuses on an Italian acquirers, that are featured by a very high concentrated ownership. Therefore, it cannot extend to anglo-saxon context where firms ownership is more fragmented. Second, this study does not consider the share of stocks in the hands of family, while literature points out a great heterogeneity of family firms deriving also from different levels of family ownership.

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## GRADES TO GAINS: THE ROLE OF GPA IN CULTIVATING ENTREPRENEURIAL INTENTIONS

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### ABSTRACT

Although previous literature has explored the relationship between university factors and entrepreneurial intentions, the specific interaction between entrepreneurship and GPA has not been fully explained. This study aims to elucidate the interactions among university factors, entrepreneurial alertness, GPA, and entrepreneurial intentions of students in Oman. Using structural equation modeling, a hypothetical model was developed, and data were collected through a structured survey. The sample included 367 responses, balanced across various sociodemographic characteristics. After confirming validity and reliability of the measures, the hypothetical model was tested. The empirical findings indicate that university factors do not directly affect entrepreneurial alertness or intention. However, entrepreneurial alertness has a statistically significant and positive direct effect on entrepreneurial intention. While no mediating effects of entrepreneurial alertness were found, the GPA of students significantly moderated the relationship between entrepreneurial alertness and entrepreneurial intention. The study further discusses practical implications, limitations and future research.

*Keywords: University Factors, Entrepreneurial Alertness, Entrepreneurial Intention, Sultanate of Oman, Structural Equation Modeling.*

### INTRODUCTION

The investigation of entrepreneurship at the university level has attracted considerable attention in recent years. Academic inquiries in this domain have sought to elucidate the foundational premises upon which university students establish their perspectives regarding their future career choices. Results and implications of these studies vary depending on the context in which they are conducted, necessitating adaptive approaches by higher education professionals.

Opting for an entrepreneurial career path presents increased challenges in a rapidly evolving business climate, characterized by rapid technological advancements that transform traditional business methodologies. Consequently, students exhibit a cautious stance toward embracing entrepreneurship as possible career path, recognizing that it demands persistent dedication, firm conviction, and

undoubtable commitment. Therefore, Gartner (1989) argued that “entrepreneurship is not a static state but a role individuals assume to establish organizations”, which underscores the inherent challenges and the initial attraction of entrepreneurship that may ultimately seem daunting (p. 64).

According to Segal et al. (2005), the ability to tolerate risk is crucial for students aspiring to entrepreneurial success. This tolerance enables them to achieve their personal goals and contribute significantly to society (Palalić et al., 2017). However, demotivating factors external to educational influences, such as a non-supportive business environment, particularly in transitional economies, can profoundly impact student motivation (Palalic et al., 2016b, Palalić et al., 2017, Palalić et al., 2023). The role of individual networking is equally paramount in shaping entrepreneurial aspirations (Palalic et al., 2016b).

Thus, a synergistic approach involving educators and policymakers is essential to fostering an entrepreneurial ethos among university students, thereby promoting self-employment and the creation of employment opportunities (Dar et al., 2023). This approach should aim to instill entrepreneurial goal intention (EGI) and facilitate entrepreneurial implementation intention (Esfandiar et al., 2019) by developing a supportive entrepreneurial ecosystem for students (Hossain et al., 2023). Cultivating an entrepreneurial spirit is crucial, as it provides a durable foundation that encourages students to adopt entrepreneurial thinking and recognize the societal value of their future endeavors.

The primary focus of research in this field has been to examine various factors influencing student attitudes towards entrepreneurship, including entrepreneurial self-efficacy (Atmono et al., 2023, Martins et al., 2023), personal traits (Israr and Saleem, 2018), entrepreneurial motivation (Listyaningsih et al., 2023), entrepreneurial education (Montes et al., 2023), and proactiveness (Mustafa et al., 2016). These studies also explored the impact of students' attitudes, desires, and perceived behavioral control (PBC) on their entrepreneurial intentions (Nguyen et al., 2019, Al Sawaey and Palalic, 2023).

In light of the aforementioned research, this study aims to bridge the knowledge gap by integrating various factors that influence or relate to the entrepreneurial intentions of students, such as entrepreneurial alertness, the university environment, and student GPA. To further this investigation, the study proposes the following research question: What is the relationship among students' entrepreneurial alertness, university environment, GPA, and entrepreneurial intention?

The subsequent sections will further discuss the theory, results and implications, methods, data analysis and results, and discussions and conclusion.

## THEORY AND HYPOTHESES

Several decades ago, Schumpeter (1934) has introduced entrepreneurial orientation pointing out that firms tend to be competitive if entrepreneurial orientation (EO) dimensions (innovativeness, proactiveness, and risk-taking) are high. Others, Miller (1983) and Covin and Slevin (1988/1989) supported this argument by stressing out validity of this approach through the scales followed by Schumpeter's study (1934) in different industries. Later on, some authors used this opportunity to apply the scale in different context and field, like education. For instance, Taatila et al. (2012) applied the same nature of the scale from adopted and modified from Miller (1983) and Covin and Slevin (1988/1989), to fit their study population.

Further studies from other regions (Palalic et al., 2016a) examined networking as well as business environment in which students operate. Meanwhile, researchers step in extra mile and introduced entrepreneurial intention that is very important beyond being entrepreneurially oriented. Entrepreneurial intention was an interesting step further to check on more real action and students' reality pertaining how much they have intention was perceived in university's students towards entrepreneurship, being self-employed and employing others. One of the studies encompassing this field was done by Liñán and Chen (2009). To understand better factors that affect entrepreneurial intention of student's different approaches were applied. To identify the gap in the literature and to fill the above gap this study provides the following discussion on the discourse of entrepreneurial intention, university factors to which university students are exposed as well as entrepreneurial alertness. Additionally, the study observes students' GPA as an important factor in these relationships.

### *University Factors, Entrepreneurial Intention, Entrepreneurial Alertness: Mutual Relationships*

The study of entrepreneurial intention has been approached by various researchers from multiple perspectives, as this concept is often incorporated within the framework of the Theory of Planned Behavior (TPB), which was first introduced by Ajzen (1985/1991) and argued by others like Bagis (2022) where spirituality of students play an important role. This body of knowledge explores the entrepreneurial intentions of students by examining both internal factors, such as personal traits, and external factors, including contextual or environmental influences, as noted by Yildirim and colleagues (2016) as well as Barral et al. (2018) and Barba-Sánchez et al. (2022). Furthermore, the role of self-efficacy as a mediating factor has been investigated, with significant contributions made by Zhao et al (2005), and by Krueger et al (2000) as well as Elnadi and Gheith (2021), adding depth to our understanding of the pathways through which intentions lead to entrepreneurial action. Other studies

emphasize the importance of university education in shaping students' entrepreneurial intention (Cui and Bell, 2022, Hou et al., 2023).

Although the literature on students' entrepreneurial intention has got a solid attention, however, still factors that affect in either way, are still open for debate. Therefore, this study proposes the following hypothesis:

**H1:** University factors significantly affect entrepreneurial intention.

Entrepreneurial alertness is a cognitive concept of individuals that can spot and pursuit opportunities (Araujo et al., 2023), which can be many times uncertain, not proved as true business opportunity. The alertness has a robust measurement scale developed by Tang et al. (2012) by which studies used to examine entrepreneurial opportunity development process. In the existing literature, entrepreneurial alertness has been argued to be significant influenced entrepreneurial intention (Neneh, 2019) while other studies argue mediation effect of entrepreneurial alertness towards entrepreneurial intention (Otache et al., 2024, Uy et al., 2015). Conversely, some authors argued that it is important that alertness needs to be observed as a consequence (Valliere, 2013), implying lots of work before the alertness has the right effect.

As discussion above signifies that university factors rarely discussed in correlation with entrepreneurial alertness, as well as findings on entrepreneurial intention and entrepreneurial alertness are also scarce, therefore, this study fills the gap by proposing the following hypotheses:

**H2:** University factors significantly affect entrepreneurial alertness.

**H3:** Entrepreneurial alertness significantly affects entrepreneurial Intention.

**H4:** Entrepreneurial alertness significantly mediates effects of university factors on entrepreneurial Intention.

Students' performance at colleges and faculties were also discussed in the existing literature. For instance, Palalić et al. (2017) emphasized possibility of GPA in entrepreneurial education and examining entrepreneurial orientation which will turned to be an entrepreneurial action. However, scant literature exists that argues either positive or negative and yet significant relationship of GPA with entrepreneurial intention. Therefore, this study proposes the following hypothesis:

**H5:** GPA significantly moderates effects of entrepreneurial alertness on entrepreneurial Intention

## **METHODOLOGY**

### *Data Collection Procedures*

Before collecting data, informed consent was obtained from the students. Participants were informed about the study's purpose and instructed on how to complete the questionnaire. They were assured of

their anonymity and that their participation was entirely voluntary. The questionnaire, conducted online, took approximately 15-20 minutes to complete.

### *Population and Sample*

The Sultanate of Oman incorporates entrepreneurship into its Vision 2040, focusing on economic diversification and fiscal sustainability. The national goal is to create a diversified and sustainable economy driven by technology, knowledge, and innovation. A key objective is to develop a competitive, diversified, and integrated economy based on foresight, innovation, and entrepreneurship (Vision Implementation Follow-up Unit, 2023). Exploring how universities in Oman contribute to fostering students' entrepreneurial intentions and alertness could be highly beneficial in achieving this goal.

In this study, we used non-probability, convenience sampling to select participants. We invited all students from various colleges and programs to join the study. Participants were informed that the survey is anonymous, and that the data collected would be used solely for scientific research. Additionally, we emphasized that participation is voluntary, allowing respondents the right to withdraw at any time if they feel uncomfortable.

This study collected data from universities in the Muscat area, which is highly representative of the entire Sultanate of Oman due to its distinct characteristics. Firstly, Muscat has the largest population in Oman, with 1,454,872 residents reported in July 2023 (National Centre For Statistics & Information, 2023). Secondly, it is the capital city of the Sultanate. Thirdly, Muscat hosts several higher education institutions that primarily use English as the official language of instructions.

The sample consisted of 367 responses and was well-balanced across various sociodemographic characteristics such as gender, age, GPA range, study level, and interest in entrepreneurship. Table 1 outlines the sociodemographic profile of the respondents. The gender distribution was nearly even, with 193 males (52.6%) and 174 females (47.4%), showing that the sample is quite balanced in terms of gender.

Most respondents, 45.23% (n=166), are aged between 20-22 years, followed by those aged 17-19 years, who make up 33.51% (n=123) of the sample. Students aged 23-27 years represent 18.26% (n=67), and only 2.45% (n=9) are aged 33 years and above. Regarding GPA, the largest group of students falls within the 2 to 3 range, accounting for 55.31% (n=203), followed by those with a GPA above 3,

comprising 23.98% (n=88). Additionally, 16.62% (n=61) of students reported not having a GPA yet, while 4.09% (n=9) have a GPA below 2.

Most surveyed students are in their fourth year of undergraduate studies, making up 36.24% (n=133). The next largest group consists of third-year students, who account for 26.16% (n=96), followed by first-year students at 18.26% (n=67). Second-year students represent 14.71% (n=54). A very small number are pursuing master's (2.72%, n=10) and PhD studies (1.91%, n=7). In terms of entrepreneurial experience, 72.75% (n=267) of the respondents claimed to have no practical experience, and the majority, 58.31% (n=214), had not attended any entrepreneurship seminars, programs, or education prior to university.

### Measures

The measurement instrument has following structure:

Survey questions related to demographics and other characteristics of respondents: gender, age, GPA range (moderator), cycle of study, entrepreneurial experience, entrepreneurial education before university. All questions from this section of the instrument are based on categorical or interval responses.

*University Factors* is a three-dimensional variable (independent) with total of six items measured using a 5-point Likert Scale (1-Very Accurate to 5-Not accurate at all). *Entrepreneurial Alertness* is a three-dimensional variable (independent; mediator) with total of thirteen items measured using a 7-point Likert Scale (1- Completely disagree to 7-Completely agree). *Entrepreneurial Intention* is a unidimensional variable (dependent) with six items measured using a 7-point Likert Scale (1- Total disagreement to 7-Total agreement).

Considering that English is the language of instruction at the universities involved in this study and that the participating students are proficient in English, the questionnaire was administered in its original English language form. Three unmodified scales were used in the study, and their details are presented in Table 1.

| Variable                  | Code | Dimensionality & Items   | Sources                         |
|---------------------------|------|--|---------------------------------|
| University Factors        | UE   | 1. Active Support (2 items)<br>2. Development (3 items)<br>3. Initiation (1 item)                                    | Franke & Lüthje (2004)          |
| Entrepreneurial Alertness | EA   | 1. Association and Connection (3 items)<br>2. Evaluation and Judgement (4 items)<br>3. Scanning and Search (6 items) | Liñán & Chen (2009)             |
| Entrepreneurial Intention | EI   | Unidimensional (6 items)   | Tang, Kacmar, & Busenitz (2012) |

Table 1. Instruments for data collection



### *Data Analysis*

The collected data were analyzed using the JAMOVI and SmartPLS4 software packages. JAMOVI was utilized for descriptive statistics and data distribution tests. SmartPLS4 was employed to assess reliability using Cronbach's Alpha and Composite Reliability, as well as to evaluate the convergent and discriminant validity of the measures. After confirming the validity and reliability, structural equation modeling (SEM) was applied to test the hypothesized effects in the research model (Ringle, Wende, & Becker, 2024).

## **RESULTS**

The next section details the results of the normality distribution test, descriptive statistics, Cronbach's coefficients, and composite reliability tests. After presenting these preliminary findings, the section on testing the measurement model provides further evidence of discriminant and convergent validity. Once acceptable levels of reliability and validity are confirmed for the measurement model, the structural model and hypotheses testing are conducted and discussed.

### *Preliminary results*

The examined variables in the study displayed a range of mean values from 3.21 to 4.73, with standard deviations between 0.760 and 1.111 (Table 2). The lowest score was observed in the university factors (Mean = 3.21; SD = 0.760), suggesting that these factors are not perceived as highly supportive of entrepreneurship by the respondents. In contrast, the highest score was recorded for entrepreneurial alertness (Mean = 4.73; SD = 0.956), indicating that respondents are vigilant and well-informed about potential business opportunities. The entrepreneurial intention score (Mean = 4.02; SD = 1.111) suggests that while students' entrepreneurial intentions are not extremely high, they are positively inclined toward entrepreneurship.

The variables showed skewness values ranging from -0.1745 to 0.0137 and kurtosis values from -0.1891 to -0.0383, all within the acceptable range of -2 to +2, confirming data normality (Hair, Hult, Ringle, & Sarstedt, 2022, p. 66). The Shapiro-Wilk test results, with all *p*-values above 0.05, further support the assumption of a normal distribution of the data (Ramachandran & Tsokos, 2020). Cronbach's alpha values ranged from 0.776 to 0.865, indicating a high level of internal consistency among the items (Taber, 2018; Cronbach & Shavelson, 2004; Cronbach, 1951). Additionally, composite reliability values were all above 0.843, demonstrating satisfactory internal consistency reliability (Hair, Hult, Ringle, & Sarstedt, 2022, p. 126). This comprehensive statistical analysis validates the reliability and validity of the measures used in the study.

|    | Mean | SD    | Skewness | Kurtosis | Shapiro Wilk (p) | <i>C</i> 's $\alpha$ | CR    |
|----|------|-------|----------|----------|------------------|----------------------|-------|
| UE | 3.21 | 0.760 | -0.0862  | -0.0383  | 0.059            | 0.776                | 0.843 |
| EI | 4.02 | 1.111 | 0.0137   | -0.1891  | 0.427            | 0.832                | 0.878 |
| EA | 4.73 | 0.956 | -0.1745  | -0.1730  | 0.147            | 0.865                | 0.890 |

Note 1: SD = Standard Deviation; *C*'s  $\alpha$  = Cronbach's Alpha; CR = Composite Reliability  
Note 2: For full name of latent variables, please see Table 1.

Table 2. Descriptive analysis, normality, and reliability

#### Measurement model assessment

The proposed measurement model is composed of three latent factors, namely University Factors (three-dimensional variable with six observed variables), Entrepreneurial Alertness (three-dimensional variable with thirteen observed variables), Entrepreneurial Intention (unidimensional variable with six observed variables) and GPA (one observed variable). The results of the analysis conducted using the SmartPLS algorithm are detailed in Tables 3 and 4. The items exhibited sufficient loadings and made significant contributions to explaining their underlying constructs, consistent with the criteria set by Hair et al. (2022). According to Table 3, all dimensions and variables demonstrated composite reliability values of 0.846 and above, which Hair et al. (2022) consider desirable. In terms of convergent validity, all dimensions achieved average variance extracted (AVE) values above the threshold of 0.5, as recommended by Hair et al. (2022). This indicates a good level of convergent validity, confirming that the constructs adequately measure what they are intended to.

| Variables & Dimensions   | Items   | Loadings | p     | CR    | AVE   |
|--|---------|----------|-------|-------|-------|
| Entrepreneurial Alertness:<br>Association and Connection<br>Code: EA_A&C | EA_A&C1 | 0,801    | <.001 | 0.869 | 0.689 |
|  | EA_A&C2 | 0,837    | <.001 |       |       |
|  | EA_A&C3 | 0,852    | <.001 |       |       |
| Entrepreneurial Alertness:<br>Evaluation and Judgement<br>Code: EA_E&J   | EA_E&J1 | 0,790    | <.001 | 0.874 | 0.634 |
|  | EA_E&J2 | 0,824    | <.001 |       |       |
|  | EA_E&J3 | 0,836    | <.001 |       |       |
|  | EA_E&J4 | 0,731    | <.001 |       |       |
| Entrepreneurial Alertness:<br>Scanning and Search<br>Code: EA_S&S        | EA_S&S1 | 0,648    | <.001 | 0.858 | 0.504 |
|  | EA_S&S2 | 0,741    | <.001 |       |       |
|  | EA_S&S3 | 0,622    | <.001 |       |       |
|  | EA_S&S4 | 0,683    | <.001 |       |       |
|  | EA_S&S5 | 0,747    | <.001 |       |       |
|  | EA_S&S6 | 0,801    | <.001 |       |       |
| University Factors:<br>Active Support<br>Code: UE_AS                     | UE_AS1  | 0,874    | <.001 | 0.850 | 0.740 |
|  | UE_AS2  | 0,846    | <.001 |       |       |
| University Factors:  | UE_D1   | 0,775    | <.001 | 0.846 | 0.646 |

|  |       |       |        |       |       |
|--|-------|-------|--------|-------|-------|
| Development<br>Code: UE_D  | UE_D2 | 0,836 | < .001 |       |       |
|  | UE_D3 | 0,800 | < .001 |       |       |
| University Factors:  |       |       |        |       |       |
| Initiation<br>Cide: UE_I   | UE_I1 | 1,000 | < .001 | *     | *     |
| Entrepreneurial Intention<br>Code: EI  | EI1   | 0,652 | < .001 | 0.878 | 0.545 |
|  | EI2   | 0,781 | < .001 |       |       |
|  | EI3   | 0,796 | < .001 |       |       |
|  | EI4   | 0,734 | < .001 |       |       |
|  | EI5   | 0,752 | < .001 |       |       |
|  | EI6   | 0,707 | < .001 |       |       |
| Note: *CR & AVE cannot be computed for dimension UE_I as it is a single item scale |       |       |        |       |       |

Table 3. Summary of the measurement model

To assess discriminant validity in this study, the Fornell-Larcker criterion (1981) was applied (Fornell & Larcker, 1981). This criterion involves comparing the square root of the average variance extracted (AVE) values for each construct with the correlations between that construct and all others. According to this rule, the square root of the AVE for each construct should be greater than its highest correlation with any other construct, indicating that a construct shares more variance with its own indicators than it does with other constructs. The results of this analysis, detailed in Table 4, successfully meet the criterion, demonstrating adequate discriminant validity according to the Fornell-Larcker rule.

| 1st Order | CR    | AVE   | UE_AS  | EA_A&C | UE_D  | EI     | EA_E&J | UE_I   | EA_S&S |
|-----------|-------|-------|--------|--------|-------|--------|--------|--------|--------|
| UE_AS     | 0.850 | 0.740 | 0.860  |        |       |        |        |        |        |
| EA_A&C    | 0.869 | 0.689 | 0.035  | 0.830  |       |        |        |        |        |
| UE_D      | 0.846 | 0.646 | 0.480  | 0.014  | 0.804 |        |        |        |        |
| EI        | 0.878 | 0.545 | 0.018  | 0.298  | 0.005 | 0.738  |        |        |        |
| EA_E&J    | 0.874 | 0.634 | 0.032  | 0.487  | 0.030 | 0.491  | 0.796  |        |        |
| UE_I      | *     | *     | 0.360  | 0.010  | 0.427 | -0.059 | 0.032  | 1.000  |        |
| EA_S&S    | 0.858 | 0.504 | -0.025 | 0.554  | 0.022 | 0.415  | 0.601  | -0.074 | 0.710  |

Note 1: The right-hand part of the table displays construct correlations and square roots of AVE on the diagonal.

Note 2: For full name of 1st order latent variables. please see Table 4

Note 3: \*CR & AVE cannot be computed for dimension UE\_I as it is a single item scale

Table 4. Construct Validation

#### Testing the Structural Model

The structural model was analyzed using a Bootstrapping algorithm in SmartPLS4, and the results are visually presented in Figure 2 and detailed further in Table 5. Out of the five hypotheses tested, two were supported (H3 and H5), while three were not supported (H1, H2, and H4). The direct effects of

university factors on entrepreneurial intention (H1) and entrepreneurial alertness (H2) were found to be statistically insignificant. Consequently, the mediating effects of entrepreneurial alertness between university factors and entrepreneurial intention (H4) also lacked statistical significance. However, the direct effects of entrepreneurial alertness on entrepreneurial intention were statistically significant (H3), as were the moderating effects of GPA on the relationship between entrepreneurial alertness and entrepreneurial intention (H5).

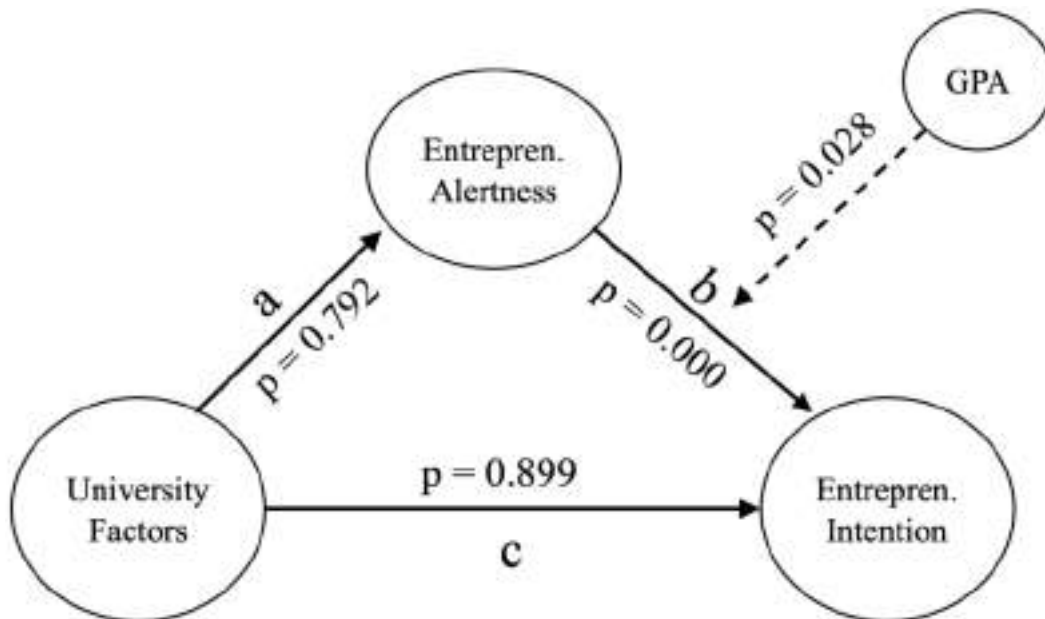


Figure 2. Results of the Structural Model

## DISCUSSION AND CONCLUSION

This study aims to explore how university elements influence Omani students' entrepreneurial alertness and intentions. Despite extensive research in the field, the impact of university-related factors remains unclear. We propose that entrepreneurial alertness mediates the link between university influences and students' entrepreneurial intentions, with GPA acting as a potential moderating factor. The findings and key insights are outlined in the following sections.

### *Direct Effects*

The table 5 below shows a detailed examination of the direct effects. It shows that university factors have a slight, positive yet not statistically significant influence on Omani students' entrepreneurial intentions (H1), with a  $t$ -value of 0.127 and a  $p$ -value of 0.899. Similarly, the impact of university factors on students' entrepreneurial alertness (H2) is also positive but not statistically significant ( $t=0.264$ ,  $p=0.792$ ). Consequently, both hypotheses H1 and H2 are not supported and have been rejected. These findings suggest that Omani universities may need to re-evaluate their approach to

fostering an environment conducive to entrepreneurship, such as enhancing the creative atmosphere, providing developmental support for student entrepreneurs, and promoting processes and networking for the development of new ventures.

On contrary, the relationship between entrepreneurial alertness and entrepreneurial intention (H3) is both positive and statistically significant, with a strong  $t$ -value of 10.797 and a  $p$ -value of 0.000. This indicates that improving entrepreneurial alertness could effectively boost the entrepreneurial intentions of Omani students.

| H                       | Path in the Model | p      | t-value | Status        |
|-------------------------|-------------------|--------|---------|---------------|
| <b>Direct Effects</b>   |                   |        |         |               |
| H1                      | UE → EI           | 0.899  | 0.127   | Not Supported |
| H2                      | UE → EA           | 0.792  | 0.264   | Not Supported |
| H3                      | EA → EI           | 0.000* | 10.797  | Supported     |
| <b>Indirect Effects</b> |                   |        |         |               |
| H4                      | EU → EA → EI      | 0.794  | 0.261   | Not Supported |
| H5                      | EA → EI * GPA     | 0.028* | 2.202   | Supported     |

Note 1: \*Significant at 95%

Note 2: For full name of latent variables, please see Table 2.

*Table 5. Testing the Hypothetical Model*

#### *Indirect Effects*

Table 5 provides an overview of the indirect effects. It shows that entrepreneurial alertness does not significantly mediate the relationship between university factors and entrepreneurial intention (H4). Although there is a small positive effect ( $t=0.261$ ), the significance is not established ( $p=0.794$ ), leading to the rejection of this mediating role, as path "a" in our model is not significant (refer to Figure 2). Despite H3 being supported, indicating significance in path "b", both paths need to be significant for a mediating effect, which is not the case here (EU → EA → EI with  $p=0.794$  and  $t=0.261$ ).

Conversely, GPA shows a significant moderating effect on the relationship between entrepreneurial alertness and entrepreneurial intention (H5), with a  $t$ -value of 2.202 and a  $p$ -value of 0.028. This suggests that students with higher GPAs may experience a stronger connection between their alertness to entrepreneurial opportunities and their intention to pursue entrepreneurship, as illustrated in Figure 2's simple slope analysis.

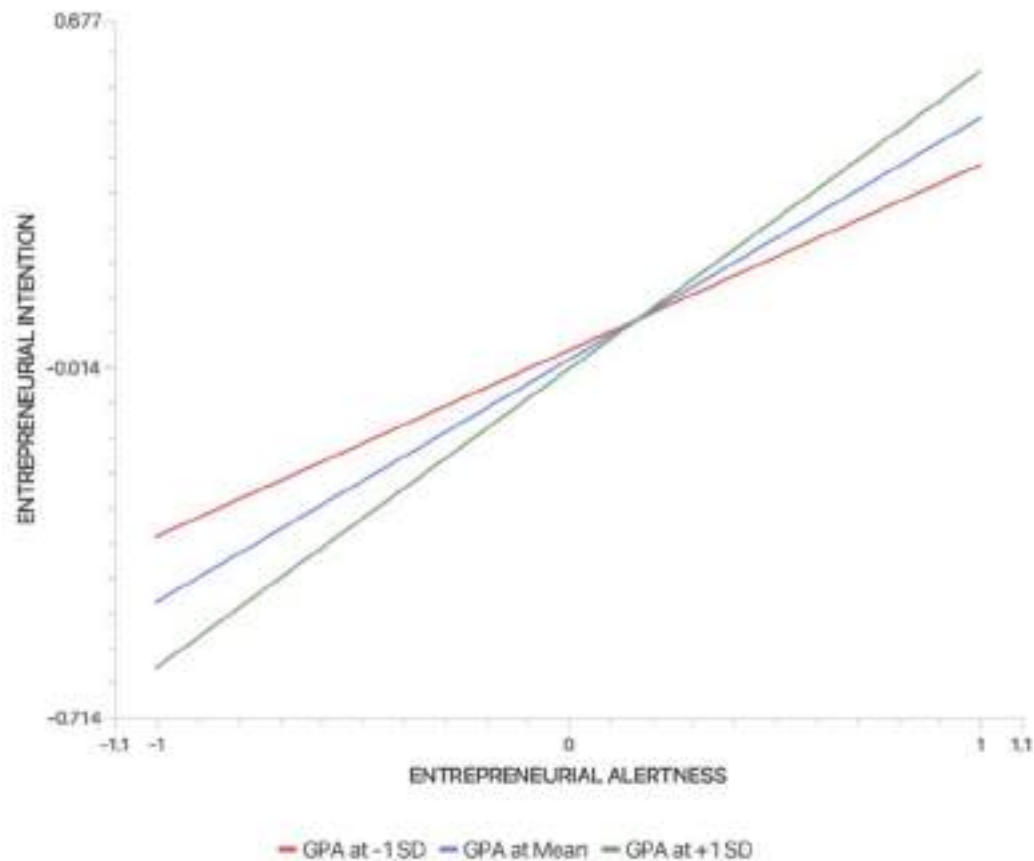


Figure 3. Simple slope analysis

Although some previous studies argue that there is a positive relationship between “environmental awareness” (del Brío González et al., 2022), the findings of this study align with previous research (Zhuang and Sun, 2023), confirming that university factors, in this case institutional factors, do not significantly impact students' entrepreneurial intentions. However, there is a clear and positive effect of entrepreneurial alertness on students' intentions to pursue entrepreneurship, confirming previous arguments (Araujo et al., 2023, Neneh, 2019).

Contrary to expectations, the potential mediating role of entrepreneurial alertness in the relationship between university factors and entrepreneurial intentions did not show statistical significance, which was not observed in previous studies.

Furthermore, and surprisingly, the study reveals that GPA plays a moderating role in the connection between alertness and entrepreneurial intention. This addresses the gap identified by Palalić et al. (2017), who suggested GPA as a potential influencing factor on entrepreneurial orientation and, subsequently, entrepreneurial intention. Upon additional scrutiny, this study did not find studies that confirms earlier research.

Finally, this study enriches the field of entrepreneurship by investigating the entrepreneurial intentions of students, highlighting that certain factors like entrepreneurial alertness and GPA can positively influence these intentions. In contrast, general university factors, potentially due to the specific context, do not strongly spur students' entrepreneurial actions.

*Practical applications* of these findings suggest that universities should offer more tangible entrepreneurial opportunities at the departmental level and consider financial incentives for aspiring entrepreneurs, given that the typical university environment doesn't directly enhance students' entrepreneurial ambitions. The significant, positive connection between GPA and entrepreneurial intentions suggests that while university learning methods are effective, there is always scope for refinement.

The study's *limitations* include its sample size, which could be expanded, and the need to consider the broader student population for more comprehensive insights. *Future research* could benefit from qualitative methods, like focus groups, to delve deeper into dynamics discussed above. Moreover, a regional comparison could shed light on the contextual elements that shape students' entrepreneurial intentions.

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## ENTREPRENEURIAL JOURNEYS: A SYSTEMATIC REVIEW OF FEMALE MIGRANT ENTREPRENEURSHIP

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### ABSTRACT

This systematic literature review addresses the field of female migrant entrepreneurship, recognising the significant socio-economic contributions and unique challenges faced by this population.

The study aims to elucidate how digitisation facilitates the empowerment of female migrant entrepreneurs, enhancing their economic and social integration and overcoming traditional barriers of geography and culture.

A systematic literature review was conducted using the Scopus and Web of Science databases, focusing on research published between 2014 and 2023 that intersects technology and migrant women's entrepreneurship.

The findings indicate that technology serves as a critical enabler for migrant women entrepreneurs, providing essential tools for market access, networking and social integration. Digital entrepreneurship is particularly helpful in balancing work and family responsibilities, especially in culturally restrictive environments. However, the study also identifies significant gaps in digital skills and access, which may hinder the full realisation of these technological benefits.

This research contributes to academic discussions by highlighting under-researched areas, such as the impact of digital marketing strategies and the potential downsides of technological dependence. It also highlights the need for targeted support to equip these entrepreneurs with the necessary digital skills.

The originality of this study lies in its focus on the synergy between technology and female migrant entrepreneurship, a relatively underexplored area in migration studies. By focusing on the aspect of empowerment through technology, this study provides a nuanced understanding of the challenges and opportunities at the nexus of migration, gender and entrepreneurship.

*Keywords: Digital development, Barriers and Success Factors, Female Migrant Entrepreneurship, Ethnicity, Technology, Social Media.*

## INTRODUCTION

Migrant women's entrepreneurship is a rapidly evolving field with unique challenges and opportunities. The field is influenced by personal, structural and socio-cultural factors that influence the entrepreneurial journey of migrant women. Research has shown that these women entrepreneurs are driven by a combination of push and pull factors, including economic necessity, the desire for autonomy and the quest for greater social mobility (Baycan-Levent and Nijkamp, 2011).

The importance of this area of research is underlined by its alignment with the key goals of the UN 2030 Agenda for Sustainable Development, in particular Goal 5: 'Achieve gender equality and empower all women and girls', Goal 8: 'Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all', and Goal 10: 'Reduce inequalities within and between countries' (United Nations, 2023).

In addition, recent geopolitical conflicts, particularly in Ukraine and Palestine, have further complicated the migration landscape, resulting in large numbers of migrants seeking safety and new opportunities abroad. This phenomenon has increased the urgency of addressing the unique challenges and opportunities faced by migrant women entrepreneurs.

This study updates the existing literature (Chreim et al., 2018) by delving into the under-explored use of digital platforms, which have recently gained relevance and were still developing at the time of previous publications. It aims to identify how these technologies can overcome traditional barriers and facilitate market entry.

Research questions formulated to explore women's entrepreneurship in the context of digital innovation include:

- What are the main sources of training that guide migrant women entrepreneurs in the use of digital platforms?
- How do female migrant entrepreneurs use digital platforms?
- How do these digital platforms facilitate their market entry?

These questions guide the research, which focuses on the intersection of technology, entrepreneurship and personal life in the context of migrant women.

Preliminary findings suggest that technology acts as a catalyst for migrant women's entrepreneurship by providing access to previously inaccessible information, markets and networks. In particular, social media plays a crucial role in enabling migrant women entrepreneurs to disseminate ethnic traditions and customs, thereby strengthening their cultural identity and expanding their business opportunities.

In addition, digitisation assists migrant women in balancing their private and professional lives, while also reconfiguring roles within the family.

In conclusion, technology offers significant opportunities for migrant women entrepreneurs by facilitating access to key resources, increasing visibility and fostering community engagement. However, the challenges inherent in the technology sector and the digital divide underline the need for targeted support and education to fully exploit these opportunities.

## METHODOLOGY

The methodology for developing the query of research in this study was outlined through findings from literature reviews focusing on two specific thematic areas: female migrant entrepreneurship and digital entrepreneurship platforms. The search terms for the first area were extracted from the 'Review of female immigrant entrepreneurship research: past findings, gaps and ways forward' (Chreim et al., 2018), which provided an in-depth overview of the challenges and social dynamics faced by female migrant entrepreneurs. Research terms used include: (immigration OR immigrant\* OR migrant\* OR ethnicity OR ethnic\*) AND (woman OR female\* OR gender OR female entrepreneur) AND (entrepreneur\* OR SME OR small and medium-sized enterprise OR small and medium-sized enterprise). The time period was limited to texts published after 2014 to avoid including works that had already been covered in previous literature.

In parallel, the review 'Digital platforms for entrepreneurship: Mapping the field and looking towards a holistic approach' (Fernandes et al., 2022) highlighted the most frequently mentioned keywords in the field of digital entrepreneurship. These included 'business model', 'digital innovation', 'digital platforms', 'digital technologies', 'ecosystem' or 'entrepreneurial ecosystem', 'start-ups', 'co-creation', 'smart cities', 'entrepreneurial orientation' and 'shared economy'. These keywords reflect the main topics of interest and emerging trends in the field, thus outlining the current key issues in digital entrepreneurship.

The keywords extracted from the two literature reviews were pooled to identify common themes that intersect both female migrant entrepreneurship and digital entrepreneurship. This approach allowed for the definition of a multidisciplinary research strategy that encompasses both themes and aims to provide a more comprehensive understanding of current dynamics.

Both reviews were selected for their relevance as they each have over 100 citations on Google Scholar, indicating their significant impact and recognition in their respective fields.

For this systematic review, Scopus and Web of Science were chosen as reference databases due to their breadth and relevance in the academic research landscape. To ensure the transparency and

reproducibility of the data collected and analyses performed, specific search parameters were used in each database:

In Scopus, the search was carried out using the following criteria TITLE-ABS-KEY ( ( "business model" OR "digital innovation" OR "digital platforms" OR "digital technologies" OR "ecosystem" OR "entrepreneurial ecosystem" OR "startup" OR "co-creation" OR "smart cities" OR "entrepreneurial orientation" OR "sharing economy" ) AND ( immigration OR immigrant\* OR migrant\* OR ethnic OR ethnicity OR ethnicities ) AND ( woman OR women OR female\* OR gender OR businesswoman OR businesswomen ) AND ( entrepreneur\* OR sme OR smes OR "small and medium enterprise" OR "small and medium enterprises" ) ) AND PUBYEAR > 2013 AND PUBYEAR < 2024 AND ( LIMIT-TO ( DOCTYPE , "ar" ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) )

For the Web of Science database, the following parameters were used: TS= (("business model" OR "digital innovation" OR "digital platforms" OR "digital technologies" OR "ecosystem" OR "entrepreneurial ecosystem" OR "startup" OR "co-creation" OR "smart cities" OR "entrepreneurial orientation" OR "sharing economy") AND (immigration OR immigrant\* OR migrant\* OR ethnic OR ethnicity OR ethnicities) AND (woman OR women OR female\* OR gender OR businesswoman OR businesswomen) AND (entrepreneur\* OR SME OR SMEs OR "small and medium enterprise" OR "small and medium enterprises")) AND PY=(2014-2023) The results were refined by selecting only articles as the document type and restricting the language to English.

After applying the above search criteria, the results yielded a significant number of documents: Scopus produced a total of 26 relevant documents, while Web of Science produced 27 documents. The result was a total of 53 documents. Data collection was carried out in early 2024 to ensure that the information extracted was as up to date as possible at the time of the research and reflected the latest trends and issues in the field of female migrant entrepreneurship.

The selection of articles for this study was divided into three distinct phases: first, an initial screening was carried out to identify and remove duplicates in both Scopus and Web of Science, eliminating 15 papers and reducing the total number of papers to 38.

This was followed by a careful reading of the abstracts, which led to the exclusion of 17 papers considered marginal to the central theme, reducing the corpus to 21 articles. Where there was uncertainty about the relevance of the abstracts to the topic, they were nevertheless included in order to allow a full analysis of the text.

After reviewing the 21 articles, each was assessed for relevance to the topic. Four articles were not available in full text and were excluded from the analysis, reducing the total number of articles to 17.

This assessment then led to the exclusion of two further texts, further reducing the total number of articles included in the analysis to 15 (Figure 1).

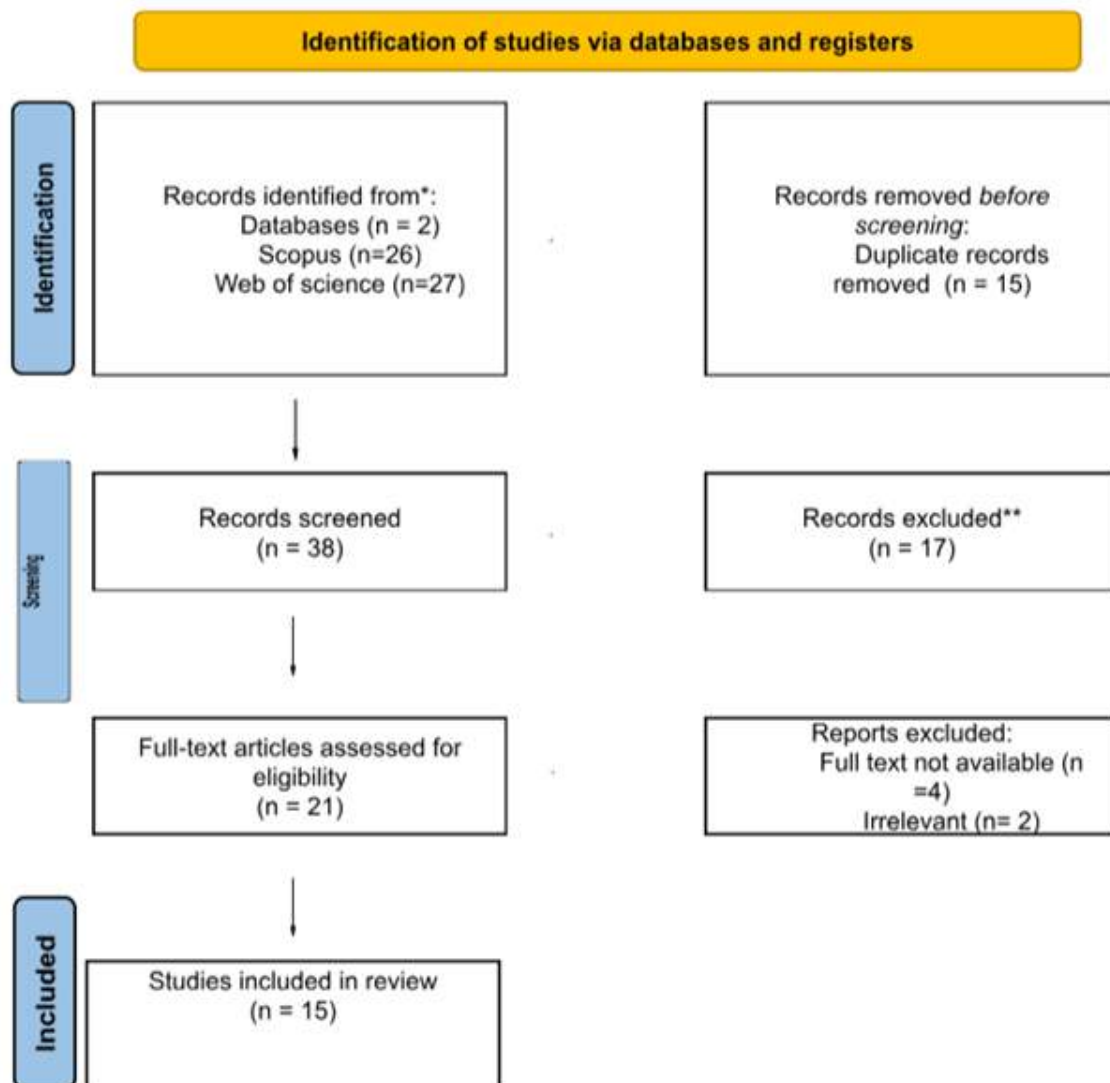
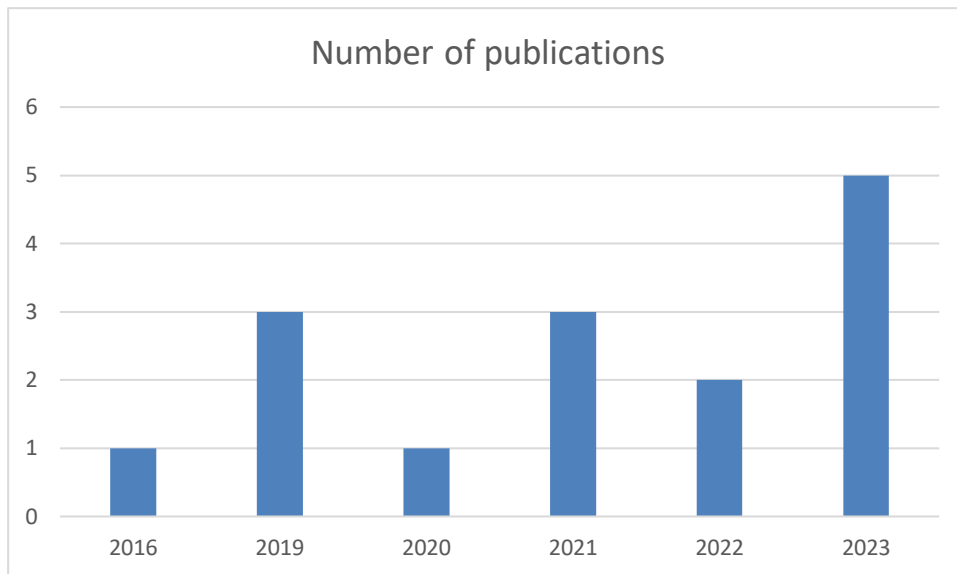
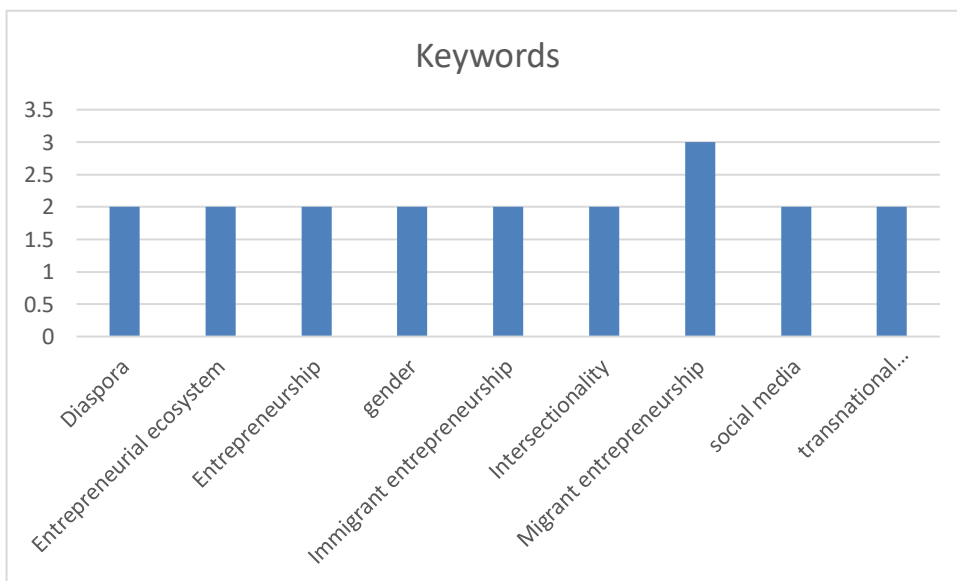


Figure 1. Reporting items for the systematic review (adapted the Preferred Reporting Items for Systematic Reviews (PRISMA) statement).



The documents examined show a recent interest in the subject, as shown in Figure 2. It should also be noted that 2023 is the year with the highest number of documents analysed.



The keywords most frequently used by the authors are shown in Figure 3, where it can be seen that 'migrant entrepreneurship' stands out as the most frequently used word.

The analysis carried out shows that most of the texts studied take a qualitative approach, as shown in the pie chart in Figure 4, which underlines the predominance of this method over quantitative studies. Consequently, the approach to the literature review will be qualitative, in line with this predominant trend.



## RESULTS

Entrepreneurship is traditionally a strategy adopted by migrants in contexts where access to employment opportunities is limited or hindered. (1) The main constraints include difficulties in meeting the necessary requirements to start a business, consolidating one's own clientele and mastering the local language.

Digital platforms are moving beyond their original function as communication tools to become real environments for migrant women's economic empowerment. In a migratory landscape characterised by hierarchies and inequalities, these technologies are becoming essential spaces for accessing job opportunities, achieving economic autonomy and creating mutual support networks between women.

These platforms are thus not only a means of achieving financial independence, but also of creating communities and social ties. (1) However, digitisation can also create further discriminatory challenges for offline entrepreneurs. (4)

Migrant women entrepreneurs are using digital platforms to overcome geographical barriers and access new markets. Among these, WeChat has stood out for its effectiveness in reaching customers in transnational contexts. (1;10) This platform also supports online payments through a 'red envelope' function and has gained popularity among migrants due to its untraceable nature: an advantage that is particularly relevant in contexts with severe government restrictions. (10) Piattaforme come eBay, Gumtree, Taobao, Amazon e Facebook rappresentano ulteriori strumenti cruciali per espandere i loro mercati, ampliando così la loro portata commerciale. (8;10;14)



Similarly, platforms such as Instagram and Facebook have been successfully used by migrant entrepreneurs to gain visibility and subsequently sell their products. (2;11;13) Access to these platforms is further facilitated by the widespread use of smartphones, which allow migrants to connect and do business instantly and flexibly. (1)

The popularity of these women entrepreneurs stems from their ability to play up their ethnicity, highlighting traditional products (such as 'hooded hijabs') and their ability to interact in multiple languages, attracting both a large international audience and the interest of multinational corporations. (2;13) This strategy of using ethnic and cultural resources allows women entrepreneurs to reach out to customers with similar backgrounds to their own, which is particularly important in the early stages of business start-up. During this period, many ethnic businesses tend to target mainly people from the same country of origin, often reached through social networks. This creates a solid and trusting base within their community. (3;5)

Another element that encourages networking and business expansion is the links created within faith-based organisations. These organisations provide training on issues such as customer care and business expansion, making them ideal places for women entrepreneurs to build and consolidate their clientele. Networking in these contexts provides vital support for businesses, facilitating the exchange of knowledge and resources that can significantly change business practices. (15)

Digital platforms are also crucial for maintaining a balance between personal and professional responsibilities. (1;8) However, a contrasting dynamic can be observed in the context of streaming activities used for product promotion. Live sessions, often followed by replays the next day, can undermine work-life balance, as evidenced by some cases of health problems related to the intense commitment required. (10)

Through digitalisation, these women entrepreneurs not only achieved financial independence, but also played a crucial role in reshaping traditional hierarchical structures within families, where the husband was often at the top. In some cases, despite initial opposition from their husbands, women entrepreneurs have managed to establish themselves as leaders. (15) This process has enabled women not only to assume leadership positions, but also to significantly influence family dynamics. (1;10)

In addition to economic aspects, the motivations for starting a business and subsequently digitalising it can be traced back to the development of personal skills and self-fulfilment. The texts also show that the territorial context in which the entrepreneurs are immigrants (such as Orlando and Silicon Valley) plays an important role as a push factor towards digital entrepreneurship. In these cases, a higher level of digitisation is highlighted, including the creation of iOS applications. (6;14)

A crucial aspect of the initial support for these entrepreneurial activities is funding from family members and personal connections. In the early stages, many immigrant entrepreneurs rely on resources within their community network to obtain the necessary capital to start and sustain their businesses until they become self-sufficient. (7) Digitalisation and the adoption of remote services play a key role in this context, facilitating financial exchange and communication between women entrepreneurs and their support networks, regardless of geographical distance.

The adoption of e-commerce offers the possibility of expanding their customer base and reducing the costs associated with sales and communication, thereby significantly increasing the income from their entrepreneurial activities. (8)

Digitisation of businesses can lead to significant improvements in production systems, as demonstrated by the case of a hospital entrepreneur who implemented digital solutions in hospital management, significantly improving the efficiency of patient registration processes. In this context, the European Bank's support was crucial for the purchase of the computers used to optimise the hospital's operations. (9)

In addition, the COVID-19 pandemic has had a lasting impact on the management practices of businesses in recent years, with digital promotion emerging as a crucial component, especially following the forced closure of businesses and the significant reduction in people's mobility. These circumstances have particularly affected the tourism and hospitality sectors, where many businesses have experienced significant difficulties. The adoption of digital marketing strategies has become essential to maintain contact with customers and mitigate the effects of the restrictions imposed. (11;12)

In addition, the COVID-19 pandemic caused school closures and affected the health of loved ones, increasing the domestic and personal responsibilities of women entrepreneurs and reducing the time available for their businesses. However, digitalisation has provided these women entrepreneurs with tools to mitigate the negative effects, allowing them to continue running their businesses flexibly and remotely.

Digital tools, as described above, are easily accessible, but access alone is not enough. It is also crucial to have the knowledge and skills to use them effectively. In addition, because they are in a new context, migrant women entrepreneurs face additional difficulties in finding support to set up their businesses, which can further complicate the digitisation process. (1;6;8)

Also emerging in the digital entrepreneurship landscape are key figures such as accelerators, programmes specifically designed to help migrants start and develop their businesses. These accelerators provide not only the necessary technical resources, but also support, training and access

to professional networks. These projects are essential for businesses to better present themselves to investors and obtain funding, thus helping to overcome initial barriers and speeding up the process of business creation and growth. (6;11;14) However, it has been observed that older migrants and those who do not speak the local language find it particularly difficult to acquire the necessary digital skills. In many cases, younger participants took a proactive role in supporting their older colleagues, highlighting the importance of intergenerational interaction and mutual support within these programmes. This dynamic not only facilitates learning, but also strengthens the cohesion and overall effectiveness of the acceleration programmes. (11)

## CONCLUSION

Systematic literature reviews play a key role in academia, providing scholars and practitioners with an effective tool for understanding the breadth and depth of existing research on specific topics.

This study, which focuses on migrant women's entrepreneurship and the role of technology, demonstrates how such reviews can serve as a basis for applying the knowledge gained to targeted social policies and initiatives. Through an in-depth review, different aspects of the phenomenon have been explored, highlighting the growing importance of technology as a vehicle for integration and entrepreneurial development.

It is important to note that the selection of data extraction dates for this systematic review was made with the aim of including the most recent research and studies, thus ensuring that the analysis is a valuable resource for academics and practitioners interested in the latest dynamics of migrant women entrepreneurship in the digital age.

The analysis revealed that the abstracts and texts examined lacked crucial information, such as the date of data collection, the nationality of the migrants and the country in which they currently reside. These omissions represent an important opportunity for future research and highlight the need for a more detailed and specific approach to the study of migrant women's entrepreneurship.

The analysis also highlighted how the use of digital platforms can create both opportunities and challenges for female migrant entrepreneurs, depending on several factors such as local context, age, language skills and mastery of digital tools.

Programmes aimed at mitigating the negative impact on these women entrepreneurs are therefore essential. Such initiatives should not only provide technical skills related to technology and innovation, but also promote cultural and linguistic integration, thus avoiding the risk of relegating migrant women to stereotypical roles and limiting their participation in more innovative and technologically advanced sectors.

The lack of studies examining the tangible benefits of such projects suggests a lack of empirical evidence in the current literature.

Future research is therefore recommended to provide an empirical basis for assessing the effectiveness of these training and integration initiatives. The lack of research in this area signals a significant gap and underlines the urgent need for empirical research into the specific effects of such programmes.

It is important to recognise that any literature review has a number of challenges and limitations. The choice of search terms, as well as the organisation of the work, can significantly influence the results obtained, sometimes leading to conclusions that differ from those of previous work. In this case, the research delved into the specific topic of innovation, moving away from the themes of previous literature. This choice was driven by a desire to explore in more depth how new technologies and digital innovation can influence and support migrant women's entrepreneurship, an area rich in potential but relatively neglected in previous academic discussions.

In addition, this systematic review highlights another significant gap in current research: the insufficient analysis of the side effects of technology on migrant women's entrepreneurship. Despite the many benefits of technology and digitisation, there is a real risk that they may exacerbate social inequalities and widen the gap between those who have access to new information and communication technologies and the skills needed to use them and those who are excluded.

Another area for further development concerns the social marketing strategies used by immigrant entrepreneurs, in particular whether they choose to maintain their cultural traditions or adapt to the context. The choice between emphasising one's cultural roots or adapting to the norms of the target market can have a profound impact on public acceptance and business success. In this context, it would be particularly interesting to initiate a comparative study of women entrepreneurs of the same nationality but operating in different countries, in order to verify whether they adopt different social marketing strategies by adapting to the specific context or whether common features emerge regardless of the country of operation.

The main limitation of this research is the limited number of texts analysed. This circumstance reflects a lack of attention to the topic in academia, suggesting a significant gap in the existing literature on female migrant entrepreneurship and the role of technological innovation. The limited availability of in-depth studies and research on the topic highlights the need for greater engagement by the academic community.

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|----------------|------------------|--|--|--|
| 1              | 2021             | Zani, B.   | Chicken Feet, Hidden Parcels and Connected Entrepreneurs: Migration and Digital Entrepreneurship between China and Taiwan                | SOCIOLOGIE DU TRAVAIL  |
| 2              | 2022             | Punathambekar, A., Giese, J., & Bisht, D.          | Curating new ethnicities in a digital era: Women and media work in the British South Asian diaspora                                      | INTERNATIONAL JOURNAL OF CULTURAL STUDIES  |
| 3              | 2019             | Bijedić, T., & Piper, A.                           | Different strokes for different folks: The job satisfaction of the self-employed and the intersection of gender and migration background | INTERNATIONAL JOURNAL OF GENDER AND ENTREPRENEURSHIP                               |
| 4              | 2023             | Evansluong, Q., Grip, L., & Karayianni, E.         | Digital ethnicity affordances: from a liability to an asset in immigrant entrepreneurship  | INTERNATIONAL JOURNAL OF ENTREPRENEURIAL BEHAVIOR & RESEARCH                       |
| 5              | 2021             | Patrickson, M., & Hallo, L.                        | Female immigrant entrepreneurship: The experience of chinese migrants to australia   | ADMINISTRATIVE SCIENCES  |
| 6              | 2020             | Lee, J. Y., & Lee, J. Y.                           | Female Transnational Entrepreneurs (FTEs): A Case Study of Korean American Female Entrepreneurs in Silicon Valley                        | Journal of Entrepreneurship and Innovation in Emerging Economies , 6(1), pp. 67–83 |
| 7              | 2023             | Hadri, V., Dvouletý, O., Bögenhold, D., & Sawy, A. | How Family and a Migrant Background Influence Family Entrepreneurship: Findings from a Systematic Literature Review                      | FIIB BUSINESS REVIEW   |
| 8              | 2022             | Dy, A. M.  | Levelling the playing field? Towards a critical-social perspective on digital entrepreneurship   | Futures  |

|    |      |  |   |   |
|----|------|--|---|---|
| 9  | 2021 | Aman, R.,<br>Ahokangas, P., &<br>Zhang, X.         | Migrant women<br>entrepreneurs and<br>entrepreneurial<br>ecosystems during<br>an external shock: a<br>case study from the<br>healthcare sector in<br>Kazakhstan | Asian Business &<br>Management                                      |
| 10 | 2023 | Yang, M., & Pang,<br>C. L.                         | Strategic<br>Cosmopolitanism:<br>Chinese Female<br>Jadeite Live<br>Streamers in Ruili   | COSMOPOLITAN<br>CIVIL SOCIETIES-AN<br>INTERDISCIPLINAR<br>Y JOURNAL |
| 11 | 2023 | Denes, A., &<br>Boonyasurat, W.                    | Supporting ethnic<br>craftswomen in<br>Chiang Mai through<br>digital media:<br>acknowledging the<br>possibilities and<br>challenges                             | INTERNATIONAL<br>JOURNAL OF<br>INTANGIBLE<br>HERITAGE               |
| 12 | 2016 | Vieira, E  | THE WOMAN<br>ENTREPRENEUR<br>IN THE DIASPORA<br>IN THE ALGARVE  | REVISTA GENERO &<br>DIREITO   |
| 13 | 2023 | Kabbara, D., &<br>Zucchella, A.                    | Transnational<br>entrepreneurship.<br>Insights from<br>female<br>entrepreneurs in the<br>modest fashion<br>industry   | JOURNAL OF<br>INTERNATIONAL<br>MANAGEMENT                           |
| 14 | 2019 | Neumeyer, X.,<br>Santos, S. C., &<br>Morris, M. H. | Who is left out:<br>exploring social<br>boundaries in<br>entrepreneurial<br>ecosystems  | JOURNAL OF<br>TECHNOLOGY<br>TRANSFER                                |
| 15 | 2019 | Gbadamosi, A.                                      | Women-<br>entrepreneurship,<br>religiosity, and<br>value-co-creation<br>with ethnic<br>consumers:<br>revisiting the<br>paradox                                  | Journal of Strategic<br>Marketing                                   |

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# EXPLORING GREEN BOND MARKET IN INDIA: GROWTH CHALLENGES, INFORMATION ASYMMETRY AND THE WAY FORWARD

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## ABSTRACT

Green bonds are considered globally to be an important aspect in green financing. Green Financing discussions have taken a center stage in many global forums due to its contribution in sustainable development. Though awareness about green finance and green bonds, has increased worldwide, a lot of challenges still exist in terms of information asymmetry and lack of systematic initiatives in increasing its market size in developing countries. This study attempts to explore the history, current status, growth trajectory and challenges for future expansion of the green bond market in India. The challenges for green bond market are visible from the fact that many private and public companies, as well as some local bodies within India, have issued green bonds in recent years but the growth is quite limited. The study examines the important issue of expediting the growth of green bond market in India and increasing the green financing by attracting foreign and domestic funds to meet the investment requirements for the renewable energy and other sustainable development objectives. The results highlight certain critical challenges for growth of green bond market in India, such as: information asymmetry, lack of systematic policy and communication initiatives, currency risk, corporate default risk, liquidity risk in the bond market, etc. The study also proposes a framework of systematic initiatives for resolving the growth challenges of the green bond market in India which will bridge the gap in the extant literature and would be useful for industry practitioners, policy makers and researchers in this area.

*Keywords: Green Bond, Bond Market, Green Financing, India INX, Green Energy, Information Asymmetry, Communication Initiatives*

## INTRODUCTION

Green finance refers to the sources of finance targeted for projects oriented toward the sustainable development of the economy (Ranjan et al., 2022). United Nations Environment Programme (UNEP) website defines green financing as a mechanism to increase finance flow from the public, private, and



not-for-profit sectors to projects meant for sustainable development. Green bonds are financial instruments issued to fixed-income-seeking investors, and the funds raised through them are focused on green financing projects (Debrah et al., 2021). The primary objective of green projects is to develop products or technology to reduce greenhouse gas emissions or clean energy (Syzdykov & Masse, 2019).

The green bonds are relatively a new instrument for developing and underdeveloped economies. This paper contributes to the growing literature on green finance in India by focusing on the green bond market-its present status, challenges, and opportunities. The paper presents the history of the green bonds market in India, documents the awareness trend about this new instrument in the Indian market, and compares it with Brazil, Russia, and China. The paper also presents regulatory provisions for the green bond market in India and policy measures required to promote this relatively new instrument. It tries to trace the challenges of information asymmetry in the green bond market and attempts to lists some solutions to resolve the issue to a greater extent.

The growth of green bonds in recent years has been termed a 'Green bond boom' by practitioners (Morgan Stanley, 2017, see Figure 1 for the geographical map of green bond issuing countries). The possible reasons for growth are increasing awareness about this new instrument (Shishlov et al., 2016) and the observable impact of changing climate on financial assets (Caldecott, 2017). The impact of green bonds on the environmental performance of the issuer has also been found significant and positive (Flamer, 2020). Additionally, green bonds are a cheaper source of debt funding than conventional bonds (Reboredo, 2018). Investors' appetite for green bonds has also resulted in their fast acceptance (Pham, 2016) in developing nations. In particular, investors from carbon-intensive sectors, and regions have preferred green bonds more over traditional debt investments (Byrd & Cooperman, 2018).

However, the growth of green bonds has remained concentrated in some parts of the world as shown in Figure 1. The developed economies have gained from the first mover advantage by issuing large numbers and amounts of both domestic and transnational green bonds. Emerging markets have not shown praiseworthy progress in raising green funds (Nguyen et al., 2023). China is the only emerging economy that stands second to the US in raising total green finance through green bonds in 2022 but ranks eleventh in the total fund-raised ranking across countries. India's growth has also remained tepid and ranks 20<sup>th</sup> in the overall ranking.

One of the reasons for this could be the great amount of information asymmetry which exists in the awareness about green bonds in India as well as the rest of the world. There appears to be very

less research work done in this area. As pointed out by Gao, Y, and Jochen M. S. (2022), in the IMF working paper, academic research works in the green bond area mostly focus on empirical aspects of the green bond market and have discussed the price premium and a few others talk about the green or sustainable aspect of green bonds. Gao, Y. and Jochen M. S. (2022) highlight the information asymmetry that exists between bond-issuing firms and the bond purchasing investors.

The findings suggest that in India, the awareness about green bonds has increased over the 2004-2022 period and is highest among all BRIC nations. But, due to the absence of comparable quality physical infrastructure and currency controls, India ranks lower among the Asian financial markets. The study also highlights default risks due to currency risks from the foreign currency green bonds issued by Indian companies. Section I of the paper is an introduction. Section II through an extensive literature review tries to examine the background, growth history and challenges in front of development of green bonds market in India. section III presents the methodology and the need for green bonds and the current status of the green bonds market in India. Section IV documents the findings including the information asymmetry issues about green finance in India and compares it with the awareness trend data of global and BRIC nations and Section V discusses conclusion.

## LITERATURE REVIEW

Bonds are traditional financial instruments used in project financing widely to either finance or refinance projects (Weber & Feltnate, 2016). Green bonds are repackaged traditional bonds intended to meet the debt funding requirements of sustainable projects (Inderst et al., 2012). However, issues related to fund diversion, insufficient investment, etc. have been reported in many studies, commonly termed 'green washing' (Ntsama et al., 2021). Market anomalies resulting in yield differences between normal bonds and green bonds, commonly known as 'greenium', have been reported in the literature (Agliardi & Agliardi, 2019).

Green bonds have been reported as a cheaper source of project financing than conventional bonds (Reboredo, 2018, Karpf & Mandel, 2018, Agliardi & Agliardi, 2019) and the possible reason for this has been cited as the 'reputation effect of the green bond'. However, the theoretical explanation of this is not yet much explored, but Agliardi & Agliardi (2019) found that lower corporate tax is one of the explanations for the greenium effect. Though in limited literature but a higher premium for green bonds has been reported (Ning et al., 2022). The explanation of low liquidity has been cited as the reason for this liquidity premium (Febi et al., 2018). Though it seems justified from the market premium for illiquidity perspective but such a premium doesn't exist for long as market liquidity

improves. No significant difference in premium has also been reported in the literature citing reasons for unwillingness to sacrifice the returns (Hyun et al., 2019).

Azhgaliyeva et al. (2020) report that investors assigning higher weightage to the environmental and sustainability aspects than to economic gain are extending funding support to green bonds. There are some focused funds intended to invest only in sustainable projects such as Amundi Planet Emerging Green One (EGO) fund extending funding to green projects in emerging economies. Such recent development in emerging economies-focused funds has provided relief to the issuers of these markets. Real Economy Green Investment Opportunity (REGIO) funds are also another fund category targeting investment in real economy firms of emerging markets.

The available literature related to the market-microstructure of green bond markets is focused on developed economies as green bond markets in developing and underdeveloped economies are not vibrant and only limited data are available (Ntsama et al., 2021; Ranjan et al., 2021). The reasons for the non-development of the green bond markets in developing and underdeveloped nations are many ranging from political instability, information asymmetry, high taxation, poor market infrastructure, etc. (Ngyyen et al., 2023; Amuni-IFC, 2020). Ng (2018) in his China-based study report that stable financing is essential for infrastructure project development in emerging economies and hence, green finance can be alternative to bank funding. The history of delays in infrastructure projects has created a negative sentiment among investors in extending funding to infrastructure projects (Tolliver et al., 2019) and hence, information asymmetry about bond proceeds, fund utilization, and project status must be shared with investors (Biddle et al., 2019).

The emerging nations require a huge investment in infrastructure assets such as highways, airports, waterways, etc. to improve their physical infrastructure of the country (Ramamurti, 2003). The burgeoning debt-to-GDP ratio, average stands at 250% in 2022, of emerging economies impacts the further borrowing capacity and also makes credit available at higher costs hence, even a few basis points of reduction in the borrowing cost may reduce the interest burden on these economies significantly. Awareness about green bonds in emerging markets is also less than in developed markets (Ranjan et al. 2021).

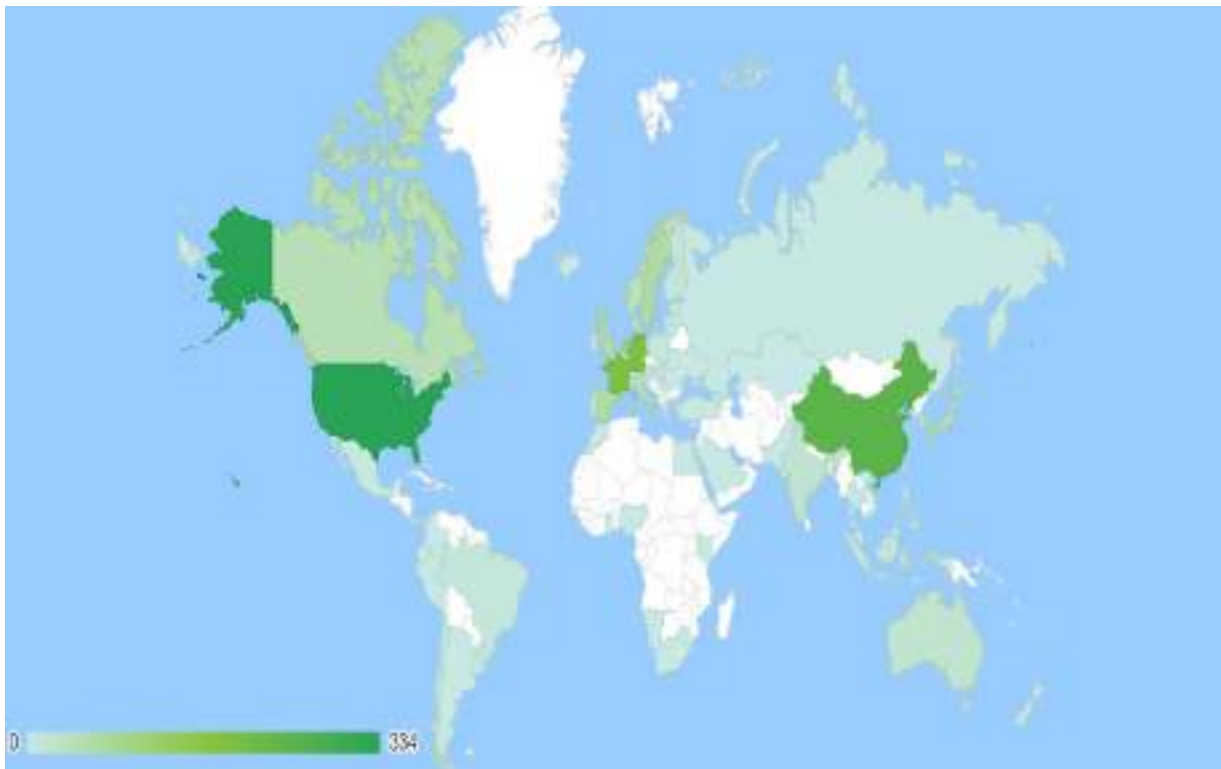
## RESEARCH METHODOLOGY

The paper presents the historical perspective of the green bond market and computes ranking of India among all countries who raised funds through green bonds during 2014-2022. The study also explores the need of green bond markets through the lens of sustainability targets for India. The

evolution of green bond market in India has been presented through pictorial representations of the data collected from climate bonds initiatives. Also, we captured the public awareness about green bonds through 'google trend' data and presented the comparative analysis of BRIC nations.

#### *Tracing the Growth of the Green Bond Market*

The first green bond documented in the global financial market dates back to 2007 and was issued by European Investment Bank (EIB) named Climate Awareness Bond to finance renewable energy and energy-efficient projects. A year later, in 2008, The World Bank issued green bonds to a private group of investors. Substantial growth in this segment was observed post-2014. Table 1 shows details of green bonds issued in global markets since 2014.



*Figure 1: Geographical Presence of Green Bonds on the World Map*

Source: Climate Bonds Initiative

Between 2014-2020, total funds raised through green bonds had grown at a compound annual growth rate (CAGR) of 41% in the global market, while the growth rate for the developed market was about 36.5% during the same period. The fund-raised through green bond data trend for emerging markets shows a tepid growth indicating slow acceptance of green bonds the emerging markets, including India.

The raised fund achieved good momentum in 2017 in which total funds raised through green bonds in the global market were US\$159.7 billion, of which a major portion, about US\$ 116.7 billion, was contributed by developed markets.

| Year    | Total Raised Fund (Including Supranational) | Developed Markets | Emerging Markets | Indian Market | Rank of India |
|---------|---|-------------------|------------------|---------------|---------------|
| 2014    | 37  | 26.8              | 0.8              | 0             |               |
| 2015    | 46.2  | 34.2              | 3.6              | 1.2           | 9/19          |
| 2016    | 84.5  | 47.8              | 26.5             | 1.6           | 8/28          |
| 2017    | 159.7                                       | 116.7             | 33.4             | 4.3           | 8/39          |
| 2018    | 172.6                                       | 119               | 40.8             | 0.7           | 25/48         |
| 2019    | 271.4                                       | 197.9             | 58.8             | 3.1           | 17/51         |
| 2020    | 305.7                                       | 242.2             | 49.7             | 1.09          | 32/52         |
| 2021    | 578.4                                       | 425.4             | 122.1            | 8             | 14/47         |
| 2022 H1 | 211   | 133.5             | 58.5             | 2.2           | 26/39         |

*Table 1: Fund Raised through Green Bonds in various Markets (data in billion US\$)*

*Source: author's representation of the data from [climatebonds.net/market/data](https://climatebonds.net/market/data)*

Table 1 shows year-wise funds raised through green bonds in various global markets since 2014. Column one presents the total raised fund through the issuance of bonds in domestic and international markets. Columns two, three, and four show green bonds in developed, emerging, and Indian markets. Column five shows the rank of India in raising funds through green bonds among all fundraising nations. This rank is based on the position of India upon the arrangement of raised funds in descending order for a particular year out of a total number of green bonds issuing countries. For example, 9/19 represents the 9<sup>th</sup> rank out of 19 green bond-issuing countries in 2015.

In 2020, emerging markets showed a decline in the raised fund through green bonds. From US\$ 58.8 billion in 2019, it fell to US\$ 49.7 billion in 2020. A possible reason for this decline may be the eruption of COVID-19 in 2020 across the globe. Due to COVID-19, investment risks in emerging markets grew, so investors either avoided or postponed their investment decisions. Due to this reason, corporates also hesitate to issue securities during highly uncertain periods.

India's ranking dropped from 9<sup>th</sup> out of 19 countries in 2015 to 32 out of 52 countries in 2020. Also, table 1 shows that the pace of fundraising in the global market in aggregate increased between 2014 to 2020. But the emerging markets showed a highly volatile trend of raising green funds over this period. The same inconsistent pattern applies to the Indian market as well. This data trend is an eye-opener for Indian policymakers who announced a mammoth task under the COP-26 meeting held in 2021.

The green bond is a relatively new instrument in the Indian financial market; hence, there is a dearth of academic literature focused on the Indian green bond market. Some related papers explore

the status and opportunities of green finance instruments in India and conclude that only 8 out of 18 green finance instruments found in other countries are available in the Indian market (Sarma et al., 2021).

*Green Bond Market and Sustainability Targets: Need Analysis*

India has made an ambitious target of achieving 450 GW of additional renewable energy (RE) generation by the year 2030, as announced by Prime Minister of India, Mr. Narendra Modi, at the United Nations Climate Change Conference of the Parties (COP-26) held in November 2021 in Glasgow. For India, this targeted capacity is around 4.5 times the installed RE capacity as of September 2021 (Deorah et al., 2021). To achieve this, power-generating companies require funding of US\$200 billion per year till 2030 as per the Council on Energy, Environment, and Water (CEEW) Centre for Energy Finance. Transmission and distribution companies will require additional capital on and above this amount. The International Finance Corporation (IFC) estimates a funding requirement of US\$300 billion per year till 2030 to achieve this (Mitra et al., 2020).

This RE power generation target seems highly ambitious. Still, it is an urgent demand of the time as India is consistently moving up in the ranking of the country having the worst air quality year on year and stands at 3 in 2020 (as per the ranking of IQAIR). In 2019, it was in 5<sup>th</sup> place in this ranking when 21 out of the 30 most populated cities of the world were in India (IQAIR). The distribution of greenhouse gas (GHG) emission sources suggests that electricity generation is the primary source (39.5%) of air pollution in India, followed by road transport (8.6%) [See Table 2] of GHG. Hence, curtailing this emission by focusing on RE generation may immediately arrest the primary concern source.

| Source                 | % Contribution |
|------------------------|----------------|
| Electricity Generation | 39.5           |
| Road Transport         | 8.6            |
| Enteric Fermentation   | 7.8            |
| Cement                 | 5.6            |
| Iron and Steel         | 4.7            |
| Other                  | 33.8           |

*Table 2: Emission sources of Green House Gases in India*

*Source: Author's representation; Data Source: India Third Biennial Update Report to the United Nations Framework Convention on Climate Change.*

Further, the rising urban population has created an excessive strain on energy consumption, leading to poor air quality (Gurjar et al., 2016). It is essential to mention that India's power generation

has remained inclined towards thermal power generation since its independence in 1947. Around 47% of the sources of city pollution are directly or indirectly related to energy consumption; hence, shifting the source of power generation towards RE is one of the most crucial tasks for the government in this direction. However, as discussed in the next section, the government's challenge is providing funding opportunities to power generation companies for these RE projects.

In India, traditionally, banks and non-banking finance companies have remained priority funding avenues for power projects. But these institutions are currently struggling with rising non-performing assets and corporate defaults. The government, an alternate source of financial assistance to infrastructure projects, is also stressed with a high debt-to-GDP ratio. India's debt-to-GDP ratio is increasing and has remained above the tipping point of 64% since 2015, as defined for emerging economies (Grennes et al., 2013). This means that raising further public debt to finance these projects would hurt the real annual growth of the economy. Therefore, private debt remains the most viable option for these RE projects. Indian companies have jumped on this route and have arranged around US\$ 5.1 billion in 2021 by issuing green bonds in foreign markets. The investors oversubscribed these issues; hence, issuers have shown pricing power also in further fundraising. However, history suggests that Indian corporates have witnessed defaults in meeting the obligations of foreign currency bonds primarily due to currency risk arising from less developed derivative markets in India. Thus, the currency risk can't be ignored for these recently launched foreign currency green bonds as well. Hence, the need of the hour is a well-developed domestic green finance bond market.

#### *Evolution of the Green Bond Market in India*

In the Indian market, the first green bond was issued in the year 2015 by Yes Bank Limited to raise green funds amounting to Indian Rupees 5 billion. The objective of this fund was to provide funding for renewable and clean energy projects. This bond was issued for a coupon of 8.85% with a maturity of 10 years. The issued bonds were listed on the Bombay Stock Exchange (BSE). However, green bonds as a source of finance have not been much accepted by Indian financial corporates but non-financial corporates [see Figure 2].

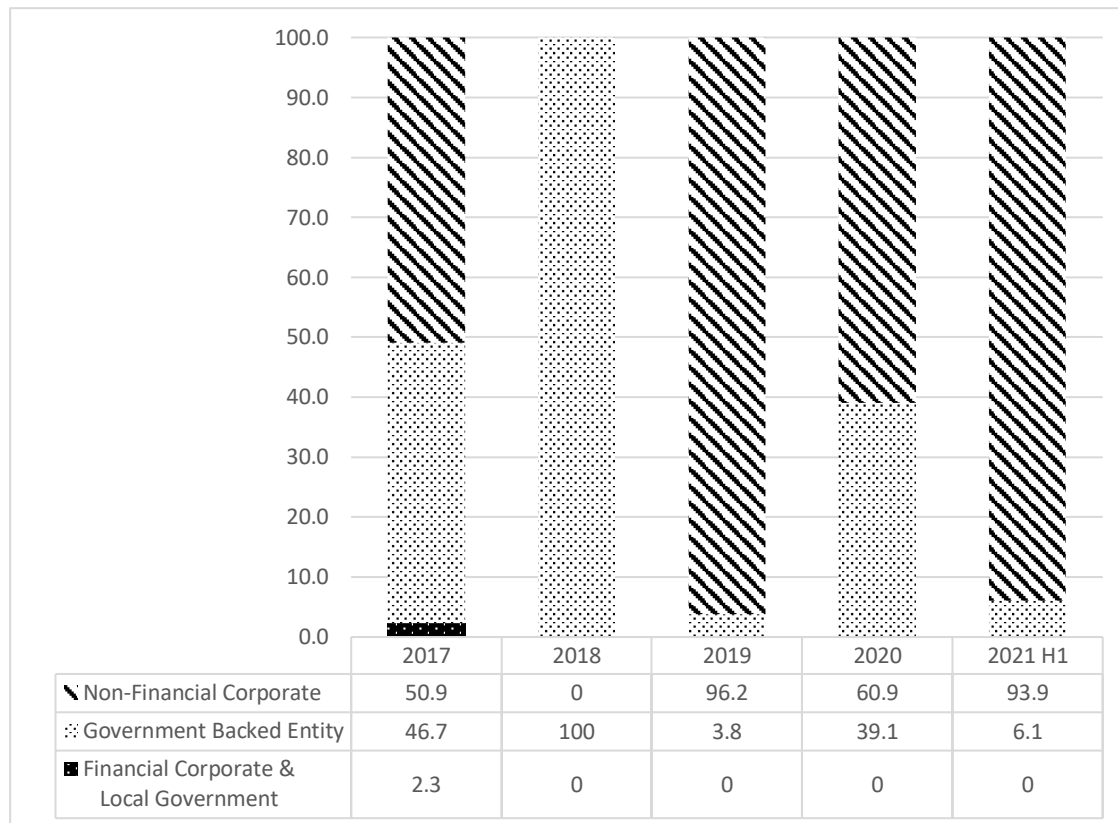


Figure 2: Indian Green Bonds by Issuer Type (in Percentage)

Source: Author's representation of the data collected from Climate Bonds Initiatives

The figure shows green bonds issued in the Indian market by various issuers from 2017 to the mid-year of 2021. The data presented are in percentage and show that from 2019 onwards, non-financial corporates have raised a significant portion of the total funds through green bonds in India.

In 2017, 50.9% of the fund raised by issuing green bonds were from non-financial corporates, and 46.7% were from government-backed entities. Financial corporates and local governments issued only 2.3% of the total funds. Surprisingly, in 2018, all green bond issues were done by government-backed entities; in 2019, around 96% of the funds raised through green bonds were done by non-financial corporates. In 2020, government-backed entities became active again and contributed to 39% of the total funds raised through green bonds. This shows inconsistency in the contribution of the total green funds raised by Indian corporates.

Acceptance of the green bonds issued directly by the Indian corporates sent a positive sentiment about the investors' attitudes and preferences. Also, it saves margin for the project firms as the absence of financial firms saves profit margin eaten by them in borrowing and lending activity.



But for small but credit-worthy project-sponsoring firms, raising funds directly would be a challenge, particularly under poor market sentiments.

As of March 2022, there are two international green bond exchanges in India- India International Exchange IFSC Ltd. (India INX) and National Stock Exchange IFSC Limited (NSE IFSC). India INX is the first international exchange located at Gujarat International Finance Tec-City (GIFT City). It is a subsidiary of the oldest stock exchange in India, the Bombay Stock Exchange (BSE), and started its operations on January 16, 2017. Following the guidelines prescribed by ICMA's Green Bond Principles and Climate Bond Initiative, India INX offers a platform for global investors to invest and trade in Indian green bonds. Till March 2022, 10 Indian corporates have issued green, social, and sustainable bonds of US\$ 10.52 billion on India INX.

NSE IFSC, incorporated in 2016, is a subsidiary of the National Stock Exchange (NSE), India. It started trading operations on 5<sup>th</sup> June 2017. The green bond issued by the Indian Railway Finance Corporation Limited (IRFC) can be traced as the first green bond issued and listed on this exchange. IRFC issued this listed green bond in 13-Dec-2017 but was listed on the IFSC platform on 30 July 2021. This green bond issued by IRFC was for US\$ 500 million with a maturity of 10 years and a coupon rate of 3.835%. IRFC issued another green bond on 21-Jan-2022 with maturity on 21-Jan-2032. This bond was listed on the exchange on 2-Jan-2022.

In April 2021, Ghaziabad Municipal Corporation (GMC) issued the first municipal green bonds in the Indian market and listed them on BSE. The issue raised Rupees 1.5 billion through a 10-year bond at a coupon rate of 8.1% per annum. The proceed will be used to construct a tertiary sewage treatment plant.

Thus, it can be concluded that green bonds have been accepted well, albeit slowly, by Indian corporates mainly issued by non-financial corporations. Initiation of bond issuance by local bodies such as municipal corporations is a welcome move and requires a lot of policy-level push from the government to achieve the target.

The green bonds have been successful in catching the attention of investors due to the increasing concern for environmental sustainability, and the call for fostering sufficient investments to finance sustainable environment goals (Syed, A.A. et al. 2022). Despite that, there is a dearth of data in terms of sources and availability of green bonds in the global market. A critical challenge exists for green bond market development and that is, information asymmetry related to environmental impacts and greenwashing-related reputational risks (Suk Hyun et al., 2022). On the supply side, there

is a lack of targeted initiatives for developing a good reputation amongst stakeholders to get positive investor recognition and catch the attention of a more diversified investor base (Flammer 2021). Many researchers believe that there is an increasing demand for disclosure and that more disclosure will reduce information asymmetry (Healy and Palepu, 2001).

Hahn and Kühnen (2013) in their research state that overall, the concept of sustainability itself is a specific example of information asymmetry because of the information gaps that exist between external investors and stakeholders and company management related to sustainability practices. To get a piece of credible information on an issuer's sustainability performance is very difficult and costly. Flammer (2021) mentions about company's environmental commitment to investors which gives them the benefit of building a strong reputation as a company with environmental consciousness. But with an absence of any legal or compulsory requirement of reporting, issuing green bonds does not generate enough credibility. Thus, a big information asymmetry exists in this case. This is also highlighted in the work of Gao, Y., and Jochen M. S. (2022), wherein they mention the need for disclosure and reporting requirements which might substantially increase the greenwashing costs and therefore reduce greenwashing. They also assert the need for strong supervision and regulations to make green bonds work.

#### *Measuring Public Awareness about Green Bonds*

It is clear that there is a big lack of awareness in this case, and hence, the Google trend has been used in this study to measure public awareness about the global green bond among Brazil, Russia, India, and China (BRIC) nations. Google search time-series data provides us interest trends for a particular topic. Google search trend data shows that out of total searches done at Google's search engine, what is the frequency of a particular search term then. For example, Google's search engine shows a frequency of 18 in January 2004 for the term Green Bond; the meaning of this can be inferred as 'out of the total searches made at Google's search engine, 18% searches were of Green Bond. Figure 3 shows the trend of Google searches related to Green Bond terminology.

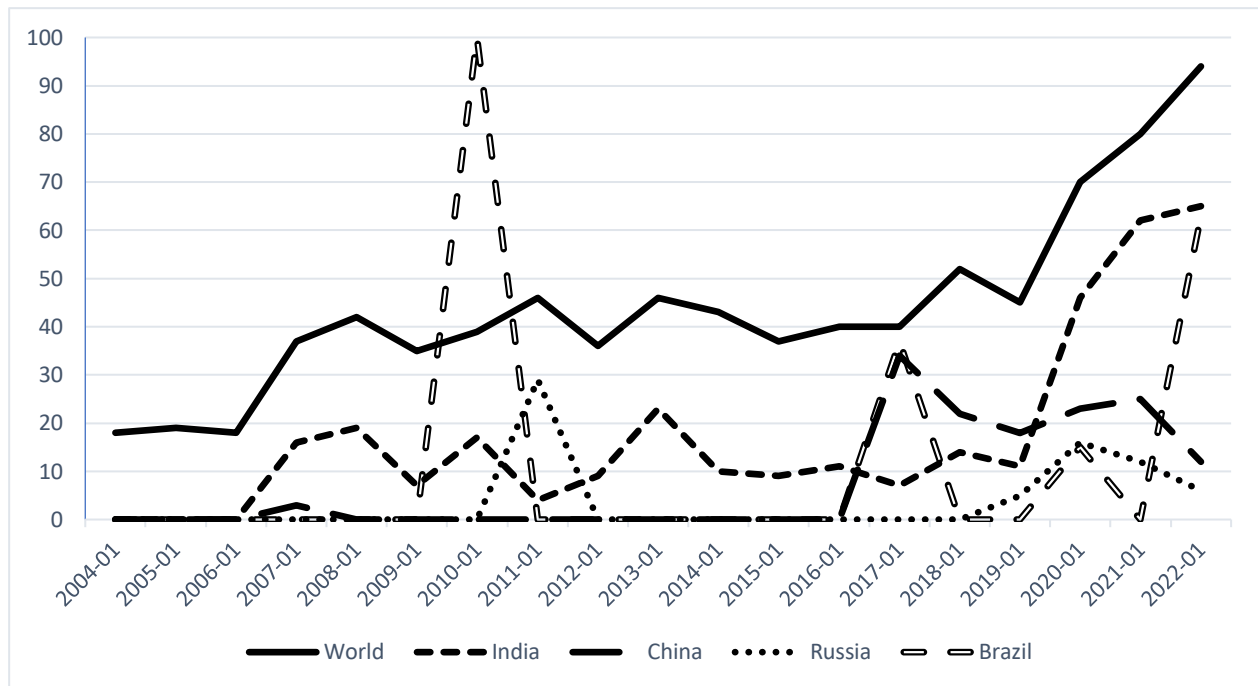


Figure 3: Green Bond Google search: trend in the world and BRIC nations

Source: Author's representation of the data from Google trend

The figure shows the green bond Google search trend in the world and BRIC nations. Google search trend data reflects about out of total searches done at Google's search engine, what is the frequency of a particular search term then. For example, Google's search engine shows a frequency of 18 in January 2004 for the term Green Bond; the meaning of this can be inferred as out of the total searches made at Google's search engine, 18% searches were of Green Bond.

The trend shows, in the aggregate, a rising awareness trend of global green bonds. In 2019 a sharp peak was observed in global awareness about green bonds as measured through Google search trends. For Brazil, 2010 marks the most popular year for the term green bond, and again in 2021, this term has become half popular in Brazil. In Russia and China, the green bond is not much popular. Awareness about this began in 2016 in China, while no clear trend is visible in Russia. Out of all BRIC nations, only India has shown a clear uptrend in awareness post-2019. In other BRIC nations, the awareness trend has shifted downward. Brazil has shown a sharp up-move in 2021. In conclusion, the awareness measured through Google search shows that awareness about the green bond in India has increased over the period and is the best among all BRIC nations. But there is no assurance that this translates into an actual investment increase in green bonds and develops a big interest in all interest groups due to the overall information asymmetry in the area.

## FINDINGS

### *1. Information Asymmetry and Need of Systematic Communication Initiatives*

The above discussions indicate that green bond issuance by Indian corporates and awareness about green bonds have increased in India over the period. However, to meet the investment requirement of the announced projects at COP-26, India needs to make many policy-level changes to attract foreign and significant domestic funds. To bridge the gap of information asymmetry in the green bonds market, a lot of systematic communication initiatives are needed to be taken.

Aligned with the G20 Green Finance Study Group (GFSG) findings of the need to develop local green bond markets, India announced a competitive tax regime for its International Financial Service Centre (IFSC) located in the GIFT City, Gujarat. These developments suggest the good intention of the government, regulators, and issuers in promoting green bonds in Indian markets. But, the 2021 ranking by the Asia Securities Industry and Financial Market Association (ASIFMA) places India in 10<sup>th</sup> position out of 13 Asian markets mainly due to poor scores in physical infrastructure and currency control in the ranking parameters. Therefore, India must build a competitive financial market infrastructure and resilient regulatory frameworks to attract local and global private funds to its green bond market.

One of the reasons for the large number of green bond issuers is the current low rate of interest in the global market. But, this trend of sizeable green bond issuance might vanish as soon as the interest rate curve starts moving north, owing to the cost of this instrument. Corporations need policy-level incentives for these bonds to make them lucrative to both issuers and subscribers. Providing fast approval to green bond issue applications, reduction or removal of stamp duty, reduced transaction costs, etc., may help boost the sentiments of this bond market segment.

Attracting retail investors to this market is another essential need of the hour. A well-developed domestic bond market is essential to attract and retain them in this segment. Defaults by stock-exchange-listed corporate borrowers in 2019 raise serious concern about the credit evaluation system followed by credit rating agencies and the regulator. 60 Indian listed companies defaulted on various loan payments amounting to Indian rupees 750 billion as of 31<sup>st</sup> December 2019. Such default data alert small debt investors and channel them to traditional bank term-deposit.

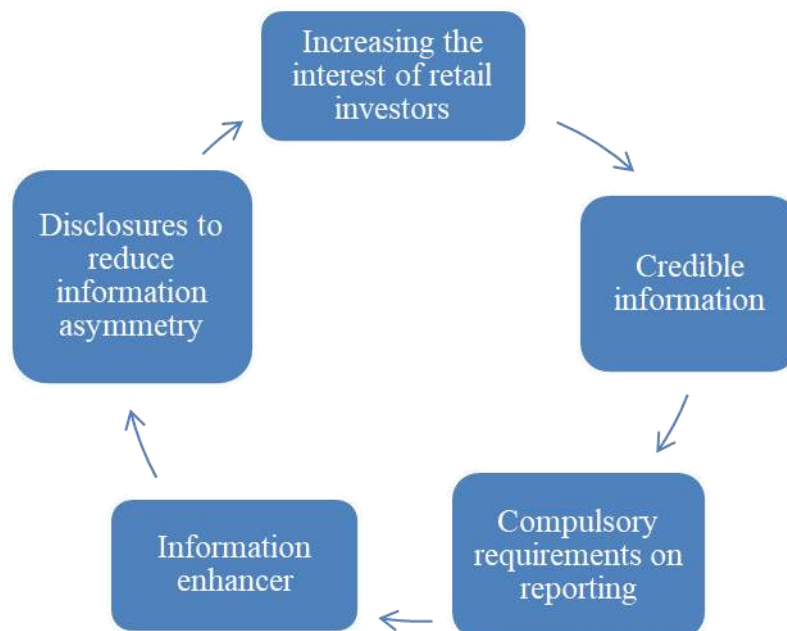
Spreading awareness about the benefits of investing in bonds over fixed or recurring deposits may help attract retail investors to the bond market through systematic investment plans (SIP). The Indian equity market has done this successfully, and almost every month, around Rupees 100 billion flows

into the equity market as SIP. This success story of the equity market needs to be replicated in the bond market.

*Managerial Implications and Proposed Framework of Initiative to Reduce the Asymmetry*

From the literature review and the analysis of current status and challenges of green bond market in India, it can be said that systematic policy and practice-oriented initiatives are required to increase the growth of green bonds in India. Without a strong preference of investors for green bonds, it is very difficult to increase the green bond market in India. Pedersen et al. (2021) and Pastor et al. (2021) suggest that investors towards green finance can be attracted by motives such as a general green preference, environment consciousness etc. To specifically address the issue of information asymmetry amongst the related stakeholders, systematic communication initiatives and specific incentives are suggested which could act as a strong trigger for investments in green bonds.

Following framework of systematic initiatives is proposed as managerial implications of the study which would definitely help in boosting the interest of the investors in green bond market:



*Figure 4: Proposed Framework for Reducing Information Asymmetry and Growth of Green Bond Market in India*

*Source: Authors' Representation*

**a) Increasing the interest of retail investors in green bonds through lucrative policy frameworks:** In the initial stage, as the awareness about the benefits and need of green bonds is much less among consumers, there is a need of reaching out to retail consumers in different ways and increase their interest in this mode of investment, Pedersen et al. (2021) and Pastor et al. (2021). This could be done through initiating various lucrative customer-friendly policy frameworks, advertisements, or offers that will make the retail investors aware as well as be interested in choosing green bonds as a preferred option of investment.

**b) More disclosures to reduce information asymmetry:** In many cases, consumers get dissuaded from investing in a particular option because of a lack of transparency and trust. The green bond issuers could come out with more disclosures to reduce information asymmetry (Healy and Palepu, 2001). This will reduce the information gap, increase credibility and help investors to trust green bonds.

**c) Providing credible information on an issuer's sustainable performance:** When the free flow of credible information is not available, there could be doubts related to the bond issuer's sustainable performance (Flammer 2021). Hence increasing communication channels and making sure that credible information about green bond issuer's sustainable performance reaches all consumers is essential.

**d) Legal or compulsory requirements on reporting:** One more option is to make reporting a compulsory requirement for green bond issuers. This will also help to reduce the issue of information asymmetry in a great way (Gao, Y., and Jochen M. S., 2022).

**e) An information enhancer such as verification to create value for investors and issuers:** Many information enhancers such as verification could be added which will create value for all interested investors and bond issuers in the green bond market. As pointed out by Ranjan et al. (2021), there is lack of awareness in investors and bond issuers as well about the importance of green bonds. Hence systematic interventions of information enhancers could be used for creating value for investors and bond issuers.

## CONCLUSION

The study highlights the importance of green bond as one of the important financial instruments for green financing. Green financing has become a key aspect in project finance. Considering the fact that discussions on green finance needs, methods, and regulations have taken a

center stage in academia, governments, and research think tanks, it is imperative to think about green bonds, which is an important source of green financing. Though there is a continuous upsurge in the funds raised through green bonds showing an upward trend, which even reached an all-time high of US\$ 578 billion in 2021, the concern is that more than 75% of the total funds raised over 2014-2021 were done by developed nations. Emerging markets, including India, need to do much policy-level push to participate actively in fundraising.

India has started attracting foreign funds to the green bonds issued by Indian corporates and has set up international exchanges to facilitate global trading. However, green bond trading infrastructure requires upliftment as India ranks low in physical infrastructure among Asian peers. Currency control is also one of the significant areas that require the immediate attention of policymakers as highly volatile currency raises risk and cost for foreign currency green bond issuers and investors.

The awareness about green bonds is little slow paced in India as compared to developed nations though it is the highest among BRIC nations. A policy-level initiative to attract retail investors may help Indian corporations receive a good amount of money in green bonds in the form of one-time investments and Systematic Investment Plans. Systematic Investment Plans may help in providing a regular flow of investment to bond markets and increasing the trading liquidity on the bond exchange. Dedicated communication initiatives would help to reduce information asymmetry and foster the growth of green bonds by creating more awareness and generating more interest. The framework proposed in the study would be immensely useful for green bond issuers and industry practitioners to achieve the desired objective of increasing the growth of the green bond market.

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## HOST SCALING AND REVENUE MANAGEMENT: IS THERE A LINK?

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### ABSTRACT

This study explores how a revenue management capability can be created by Airbnb hosts and the role played by the professionalization degree, defined as the number of listings managed by a host. The theoretical lenses used by this study is the resource-based. 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.

The study is based on qualitative data collected through interviews in the Milan destination. In line with previous studies, three different groups of hosts were identified. The interviews were recorded, transcribed and coded using the software NVIVO. Results reports strong differences between the three groups of hosts and especially between single and big hosts (those managing ten or more listings). The goals itself are different: while single hosts prefer to select guest and maximize price, big hosts, supporting higher fixed costs, are strongly focused on revenue. Small hosts are widely involved in the operating processes (check-in, cleaning, guest interaction) and in many cases the short-term rental is only an additional activity (the main work in another). Therefore, the time dedicated to data collection and revenue management strategy is limited. The opposite is for big hosts that are usually organized as a company with employees specialized per function and with a strong focus on revenue maximization. The paper is supportive for the emerging idea of professionalization degree.

*Keywords: Revenue management capability; Airbnb; professionalization degree; individual hosts; professional hosts; data analysis; dynamic pricing; benchmarking; single host; corporate host.*

### INTRODUCTION

This study, that based on Milan hosts' interviews, explores the links between professionalization degree and revenue management capability creation. Four theoretical blocks, later presented in the literature review section, are analyzed.

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, 2020a). 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 & Chica-Olmo, 2022; Vassilikopoulou et al., 2022).

The previous studies agree that host professionalization has an impact on revenue management and pricing strategy. 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 and in particular how they are able to create a revenue management capability (Cocola-Gant, et al., 2021). 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 (Amit & Schoemaker, 1993). Previous studies on hosts suggest the presence of some relevant capabilities, as the preparation of the listing, commercialization, interaction with guests, financial capability (Cocola-Gant, et al., 2021). This study focuses on the commercialization capability, defined in this paper as revenue management capability.

## **PROFESSIONALIZATION DEGREE AND HOST PERFORMANCE**

Some quantitative studies exploring the price determinants, revealed that professional hosts 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 (Sainaghi, 2020a). However, these ambiguities are mainly related to the focus on price rather than on revenue (Sainaghi, 2020b). 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 (Abrate, et al., 2022) eventually integrated with other variables, as experience, type of listings and year-round availability (Bosma, 2021). While in many studies there is a juxtaposition between professional and individual hosts, recent articles introduced the idea of professionalization degree (Bosma, 2021). In big cities, there are dozens of thousands 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 favoured 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 operationalized considering the number of listings managed. 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.

## REVENUE MANAGEMENT CAPABILITY

This section identifies which resources can generate a revenue management capability. The resource-based view defines resources as stock of factors that are own or controlled by a company, while capabilities focus on firm ability to use these resources, usually in combination (Amit & Schoemaker, 1993). 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).

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 four major components: i) identifying the required information to set the revenue management strategy, ii) taking strategic and then tactical pricing and revenue management decisions, iii) managing the communication and interaction with the guests, and iv) the availability of a software dedicated to revenue management.

The first activity focuses on the information necessary to set up the revenue management capability and includes, among others the following resources, skills, and coordination mechanisms: i) data availability, ii) data analysis know-how, iii) benchmarking know-how, iv) demand forecasting know-how. The availability of data can support the revenue management process, especially if they are well-organized and simply to access. However, data sometimes are available, but the host has not the skills to use them. For this reason, the data analysis know-how is very relevant for the entire revenue management process. Rates should generate a transaction between the landlord and the guest; however, STR providers operate under concurrence. Benchmarking know-how is considered an important skill to understand who the most relevant competitors are, to scan their rates and to

consider them in the revenue management process. Rates focus on the future transactions, therefore when a host decide the prices should have an idea about the future market condition. This requires a demand forecasting know-how, able to consider if the demand is rising or not, if the destination offers some special events, and so on.

The second component can be defined as pricing formulation and is the heart of revenue management capability. It includes mainly the following sub-topics: i) dynamic pricing know-how, ii) revenue rather price maximization focus, iii) multi-channel ability, iv) presence of a revenue manager. Dynamic pricing know-how is able to improve the listing revenue, but this pricing strategy generates additional work. In fact, to change continuously price requires knowing the destination seasonal periods, the rates proposed by competitors, the saturation degree of host capacity. Not surprisingly, many hosts prefer to achieve less revenues but avoiding this additional work. Some papers analysing price determinants revealed that professional hosts apply lower rates rather than single-unit hosts, or, more generally, the relationship between commercial host and price is controversial (Sainaghi, 2020). However, other studies shown an interesting relationship, professional hosts achieve higher revenue, rather than mom-and-pop providers. Said differently, what really changes comparing professional and single-listings providers is a different focus. While single providers search price maximization, professional hosts are more interested on revenue maximization. To improve the listing revenues, the hosts can use (simultaneously or not) more than one channel. In the study of corporate hosts, three main platforms are used: Airbnb, Booking.com and VRBO (Cocola-Gant, Jover, Carvalho, & Chamusca, 2021). Multi-channel ability is therefore needed, including the ability to set-up the rates for the different platforms, to avoid rate disparity or overbooking. Finally, the presence of a revenue manager or a host with a background in this field represents a crucial point, able to change and improve the entire revenue management activity. The revenue manager can be an external consultant that support the host (Cocola-Gant, et al., 2021).

The third component focuses on managing, communicating, and interacting with the guests. The skills, resources and routines are many. In this study we focus on. i) ability to interact with potential clients and ii) reputation. The ability to interact with potential clients plays a pivotal role. As confirmed by some quantitative studies, response rate and time positively affects the listing results, as well as the number of photos published (and their quality). Moving to reputation some items refer to the number of reviews collected by the listing, the overall rating, the presence of superhost badge, the host experience.

Finally, a coordination mechanism is introduced and is the presence of a revenue management software. The availability of a revenue software plays a crucial role. In fact, all the items previously identified are influenced by the software – for example the software can store data, can support benchmarking activity, demand forecasting, defining and dynamically adjusting the price, but can also help the host to quickly respond to potential guests or managing some reputation indicators.

## **METHODOLOGY**

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 (Bosma, 2021). When saturation is achieved, the authors report the main findings using quotations and typically describing categories (as different types of hosts). The same approach was used in the current study.

The sample was extracted by the AirDNA database from Milan. Milan is the second leading Italian destination after Rome and attracts different targets, as business, leisure and trade fairs. Focusing on this last segment, Fiera Milano organizes dozens of events (Sainaghi & Mauri, 2018). Therefore, in the Milan city there are continuous changes in off- and on-picks (Sainaghi, et al., 2018), constituting an ideal setting for exploring the creation of a revenue management capability (Sainaghi, et al., 2018).

As typical for qualitative research, a polar approach was adopted in this study, in order to understand how the professionalization degree can help the emergence of a revenue management capability (Eisenhardt, 1989). In line with previous studies, three different groups of hosts were identified: i) single hosts (also called group one), ii) hosts managing 3-5 listings (group two), iii) hosts managing more than 10 listings (group 3). The host segmentation based on listings managed was used in some previous studies (Deboosere, et al., 2019; Sainaghi & Baggio, 2021). Only hosts managing entire apartment/house were considered. The final sample includes 27 interviews: interviews numbered 1-11 for single hosts, interviews numbered 12-20 for 3-5 listings and interviews numbered 21-27 for hosts managing more than 10 listings. All the interviews were recorded, transcribed, and coded using NVIVO software.

## **FINDINGS**

This section is based on the four theoretical blocks depicted by the literature, as previously discussed.

The following sub-headings reports the main evidence emerged from the interviewees.

#### Information and data analysis skills

The code data availability illustrates some relevant differences moving from single to multiple hosts. Single host usually do not have a dedicated register with all the past data; they use the repository offered by Airbnb but mainly for fiscal and administrative purposes. “The archive is used only for personal information and documentation for any checks, including for tax purposes” ... “I don’t consider the historical archive important for formulating prices” (interview #5). The opposite is for big hosts (group 3). “The reservation archive is entered in the PMS (Property Management Systems). The data is analysed directly by the system. The historical data are our starting point for defining the future rates” (interview #22). The second group oscillates between hosts that do not consider very relevant the historical data and others that invest more time and attention. The threshold is again the presence or not of a software. “It has a historical archive of reservations, which can be consulted in the company management system. The software proposes the prices charged in the past and the occupancy rate. The wheelbase data is very useful for orienting the tariffs to be applied” (interview #18).

Data analysis know-how is the second code. Many hosts of the first group invest limited time for analyzing data. “Historical data is not used to formulate prices” (interview #9) or “I have a historical archive of bookings, but it doesn’t seem very important to me and then it’s complicated to extract the information” (interview #11). Again, the approach of the third group appears the opposite. Thanks to the software, the data process analysis is simple, fast, and is made periodically. “We collect a lot of data: past sales data, competitors’ prices, offers near our apartments, events, weather (it’s not the same thing as a sunny weekend or a rainy one). Thanks to the software we can combine all this data on one platform and examine it easily. We regularly set aside time for this activity” (interview #22).

Benchmarking know-how is perceived an important activity during the start-up by the single host. “I spent a lot of time for benchmarking activity at the start-up of my business. Currently I dedicate about an hour a month” (interview #3). Some hosts affirm the relevance of benchmarking however they have not time enough to do this activity. “I’m aware about the importance of benchmarking. It would be useful to do so but I have not the necessary time to dedicate to it” (interview #9). For the second group, benchmarking is an ordinary activity perceived relevant. “I look on Airbnb and Booking what are the prices in the area and the services that are offered. This activity is useful for defining prices and it requires at least ten hours a month” (interview #19). Big hosts (group three) declare the strategic relevance of benchmarking. “I constantly look at the websites of competitors, I observe their prices, I

consider the quality of their listings, the area. This continuous observation helps me a lot in changing the price frequently. I certainly dedicate a lot of time to this activity which is one of the most important" (interview #21). "I dedicate at least an hour a day to this activity. It is essential for my work" (interview #24).

Concerning demand forecasting know-how, the city of Milan is registering a strong turnaround after the Covid. The demand is growing, and the consumer behaviour patterns are changing. For this reason, some hosts (small and big) consider unpredictable the demand. "After the pandemic there is an incredible demand" (interview #13). "The prices we are practicing from May 2022 onwards are very high compared to the past. There is a boom in requests" (interview #24). "After the pandemic, the seasonality of Milan has changed: there is almost always a very high demand" (interview #27). With this premise, small hosts are not able to predict the tourism demand. "I wouldn't know how to predict the number of customers or even what data I could use" (interview #4). The second group forecasts demand considering the Milanese seasonality. "Thanks to the calendar of events in Milan, I am able to roughly predict the number of customers" (interview #17). The professional hosts (group three) use mainly the software and the number of requests/reservations. "To predict potential demand I use price lab, a module of our revenue management software" (interview #22). "The intensity of the requests we receive, together with the reservations made well in advance, help us to estimate the expected demand" (interview #27). The availability of historical data are also very important for demand forecasting. "We predict demand based on our experience and the historical data (the company is 12 years old)" (interview #25).

The findings confirm the relevance of the variables taken from the literature, on one side, and the importance effects plaid by professionalization degree, on the other hand.

#### Pricing and revenue management decisions

This second group of activities and routines plaid a crucial for understanding the role of professionalization. Dynamic pricing know-how is probably a key threshold between small and big Airbnb providers. Single hosts tend to use one static price or to articulate the rates in few classes of price. "For my apartment, I consider a price of €80 to be optimal" (interview #1). "I set the price 10 years ago and have broadly held it constant" (interview #3). "Prices from the apartment are always quite similar" (interview #4). "If we take a year as a reference, I use 2 or 3 different prices" (interview #5). The second group abandons the static price and uses a deeply price discrimination. "The prices of the apartments during the course of the year are differentiated mainly when there are events" (interview #17). Furthermore, the price variation increases. "Within a year, I use about four



significantly different prices" (interview #18). Big hosts enlarge the price discrimination or adopt a dynamic pricing approach. "In a year I use at least 6-7 different prices and then further changes are made within them" (interview #26). "I don't use price ranges but continue to rebalance rates based on demand. The dynamism of the price is guaranteed by the daily observation of the market" (interview #21). "Every day I apply a different price. We do the same work that hotels do" (interview #22).

Concerning revenue or price maximization focus the interviews confirms important differences among the groups. Single hosts are more oriented on price. "For me it is more important to have a high price rather than higher revenues" (interview #3). "I prefer to have a high price and less reservations" (interview #6). Sometimes a higher price is perceived as a useful tool to select guest and avoid problems. "Lowering prices would bring disrespectful people to my house who are different from my target" (interview #15). The quote, despite focuses on the second group of hosts emerges in many single host interviews. Again, big hosts show a completely different approach. "Our revenue management system helps us fill apartments at the optimal price. Every unsold night is a loss of revenue" (interview #22). "We have fixed costs to cover, which is why it is more important to generate high revenues" (interview #24).

Big host show a clear multi-channel ability. "To sell apartments, I use many different portals: Airbnb, Booking, Expedia, TripAdvisor, Trivago, HomeAway, VRBO, casavacanza.it, Home Togo and others. The most efficient channels are Booking and Airbnb" (interview #22). The presence of a channel management software plays a pivotal role. "Multi-channel is managed through a management system called "cross booking", a channel manager" (interview #24). Some hosts have dedicated employees responsible for this activity. "Multi-channel is managed through a channel manager and the people in charge of booking" (interview #24). Also, many hosts of the second group show a multi-channel ability. "To sell apartments, I use Airbnb, Booking and our site" (interview #12). However, the prevalent focus is on Airbnb. "Booking generates more traffic, but I prefer working with Airbnb because these customers are much more polite. They have the idea that they come to my house, and they have respect" (interview #12).

Moving to presence of a revenue manager, the first two groups are not big enough to have a dedicated person in staff. "I formulate the prices" (interview #3). "I've never felt the need to have external support or a dedicated figure to formulate the prices" (interview #12). Some big hosts have a revenue manager in their staff. "The prices are formulated by the staff who take care of the booking and are familiar with the principles of revenue management" (interview #24). Nearly all hosts in group three have attended price training, while hosts in groups one and two report the opposite.

Pricing emerges as a central topic able to differentiate single versus multi listings hosts. The qualitative evidence confirms the importance of dynamic pricing, as shown in quantitative studies (Abrate et al., 2022).

#### Guest communication and interaction

The ability to interact with potential clients is a crucial activity for Airbnb hosts. Single hosts usually are enthusiastic to have a personal relationship with guests. In fact, these hosts are involved in many operating activities, as check-in, cleaning service (sometimes with the support of collaborators), and guest assistance. "I personally welcome my guests upon check-in" (interview #2). "The interaction with the potential customer is very intense. I also like to provide information about Milan. It's more of a friendly relationship than a professional one" (interview #5). The answers are similar for hosts belonging to the second group. By contrast, in the third group the interaction is partially mediated by the employees and collaborators, on one side, and technology, on the other. "We have digitized the entire check-in process, thanks to digital locks" (interview #22). "Our company has eight employees. We also make use of external collaborators. Check-in is done by our staff" (interview #25). Response rate and response time is very efficient for all the hosts, without significant differences concerning the number of listings. In the interaction process the listing photos are considered very relevant. While single hosts prefer to realize by themselves the pictures, big hosts (group three) use more intensively professional photographers. "I've realized the photos by myself. I'd like to change them and have better quality images, but I've never trusted a professional photographer" (interview #2). "The photos used on the platforms are not changed often. However, if an apartment does not sell as it should, we intervene, perhaps even just changing the order and putting the most beautiful as the first photo. The photos were taken by a professional photographer who specializes in interiors" (interview #22). Another important difference between the host groups concerns the guest selection. Single hosts are more sensitive to select their guests and to avoid problems. "I do everything by myself. I host people in my house, and I want to know who comes" (interview #1). "I no longer use Booking because customers arrive who think they are in the hotel and therefore leave dirt, break objects and say nothing" (interview #12). Host belonging to the third group usually adopt instant booking and therefore do not select their guests. "We spend little time interacting with the customer before booking as we have adopted the instant booking system" (interview #22).

The second item is reputation. Hosts consider very important the reviews, more the score than the number. Reviews are so relevant that some Airbnb providers, during the start-up, prefer to apply cheap price to attract many guests and collect reviews. "During the first four months we applied very

low prices. It has served to have a greater number of reservations and therefore increase the number of reviews. Once we reached a reasonable number, we were able to increase the prices" (interview #6). "Reviews are a key element in building trust to the listing" (interview #12). A difference among hosts emerges considering the ability of reviews to guide listing and service improvements. Host belonging to the first two groups usually have a strong and personal interaction with guests. Therefore, they are able to intervene when problems arise. "Weaknesses almost never emerge from the reviews because I intervene promptly during the stay when problems arise" (interview #14). By contrast, big hosts use more intensively reviews for identifying problems. "I happened to intervene on weaknesses that emerged from the reviews: for example, if it happens several times that they tell me that the apartment is too hot, I try to boost the air conditioning" (interview #22). The majority of big hosts have reported concrete examples of improvements introduced thanks to the reviews. Another important difference regards the time dedicated analysing the reviews. While small hosts affirm only to quickly read the reviews – "I spend little time analysing the reviews" (interview #4) –, large hosts invest more time. "Every time I check out, I scan the reviews. They help me understand how each apartment is positioned" (interview #21).

Again, the professionalization degree deeply changes the guest interaction and the relevance of reputation. Concerning the guest relationships, professional hosts manage mainly indirectly the ties with clients, using technology, the opposite choice is made by the single host.

#### Revenue management software

The presence of software has a strong influence on the entire pricing process. Single hosts do not use software and Excel file. The support provided by the Airbnb platform is enough. Not surprising the multi-channel approach is not used and prices are mainly static or basically discriminated. By contrast, the third group of hosts largely adopt a software, mainly related to the benchmarking and pricing activity.

## CONCLUSIONS

Focusing on theoretical conclusions, the study supports the host classification in three proposed groups. The first threshold is one and the second is around ten and support the idea of professionalization degree. The rising number of managed listings, in fact, require a progressive creation of a firm, with employees and external collaborators, rising the fixed costs. By contrast, single host are widely involved in the operating activities (usually they realize everything by their self), are less skilled, especially in providing and using information to orient the pricing. Furthermore, the goals

are different. Small hosts are more interested to select their guests and to preserve the listing. Therefore, they prefer maximizing price rather than revenue. Big hosts are organized as company, with employees and fixed costs. Therefore, they are “number” driven, researching more volume and revenue than price. Second, the four theoretical blocks used to understand the revenue management capability are relevant in explaining why and how the professionalization degree is able to change the pricing process.

The study is reach of possible empirical implications for Airbnb hosts and more generally for people involved in short-term rentals. The four blocks and sub-blocks provide concrete examples about the pricing formulation. Examples include how to organize and manage information and data analysis skills, as an important step to orient the pricing process. Moving to price, the relevance of dynamic versus static price and price versus revenue maximization play a central role. Professional host tend to adopt multichannel structure. The relationships between hosts and guests are centered, in the case of single providers, on direct and personal ties. In the case of professional hosts, the guest interaction is often mediated by technology (self-check-in, WhatsApp, Internet) and/or staff. The presence or absence of software is crucial to manage the entire revenue management capability.

The main study limit is the space constraint that limited the findings. For this reason, the article reports only the pricing components without providing the “overall picture” (how the four blocks and the sub-topics interact). By contrast the number of interviews is not perceived a limitation. In fact, there is a high overlapping between the interviews (especially for host pertaining to group one and two) and saturation is quickly reached. Said differently, additional interviews tend to repeat the same items.

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# THE ECONOMIC EFFECTS OF THE WAR BETWEEN ISRAEL AND HAMAS FROM OCTOBER 2023 THROUGH APRIL 2024 ON THE ECONOMIES OF EGYPT, THE WEST BANK, LEBANON, GAZA AND ISRAEL

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## ABSTRACT

This paper examines the economic effects of the war between Israel and Hamas six months after Hamas attacked Israel on 7 October 2023 on the economies of Egypt, the West Bank, Lebanon, Gaza and Israel. While Egypt has lost some earnings from ships not passing through the Suez Canal and a loss of tourists due to the war, it has received more aid from the IMF because of the war, which could mean that it has benefited from the war. The Palestinians living in the West Bank has suffered economically from the war mainly due to Israeli restrictions limiting them from working in Israel. The war has also led to a decline in tourists to Lebanon and a reduction in agriculture in southern Lebanon due to Hezbollah's partial entry in the war in order to help Hamas. The war has had huge economic costs to the people in Gaza due to a stoppage of most economic activities and the destruction of homes, businesses and infrastructure in Gaza. The war has also led to a steep drop in Israel's GDP in the fourth quarter of 2023, and an increase in its government debt to pay for the war. However, Israel's economy seems to be recovering in 2024 since many soldiers who had been called up to the army have returned home. The ultimate effect of the war on the different areas will depend on the outcome of the war and the ensuing developments that may or not result from the war.

*Keywords: Wars and economic growth, Economic costs of wars, Economic consequences of wars, Wars and economic performance, The Middle East in 2023 and 2024*

## INTRODUCTION

On 9 September 2023, *The Economist* (2023b, p. 9) heralded "The new Middle East: More money and less mayhem. For now." Similarly, on 29 September 2023, the US National Security Advisor, Jake Sullivan, speaking at The Atlantic Festival, stated "The Middle East region is quieter today than it has been in two decades," (*The Economist*, 2023c, p. 20). All this optimism of improving times in the Middle East was shattered on the morning of 7 October 2023, Hamas, the de facto ruler of the Gaza

Strip, attacked Israel and murdered around 1200 Israelis and abducted 240 Israelis (Saidel, Said and Peled, 2024). In response, Israel attacked Hamas by invading the Gaza Strip to rescue the hostages, and as of this writing, another 260 Israeli soldiers have died in the fighting, which is continuing, and, according to the Hamas health ministry, 33,000 Gazans. This horrific loss of life and the accompanying even greater number of wounded Israelis and Gazans, some permanently, are the major costs of the war, but there are also the economic effects of the war, which impact the people living in both areas both during the war and potentially after the war is over. In addition, the war has also impacted on the economies of other Middle East countries, who are peripheral to the fighting between Israel and Hamas, such as Egypt, the Palestinians in the West Bank and Lebanon.

Six months have now passed since the war between Israel and Hamas began, and this period of time allows us to examine the economic impact of the war on these different areas. The economic impact of wars while usually negative, can also be positive, and the economic impact of a war after a war ends can differ from the impact during the war depending on the results of the war and developments that may or may not arise after the war. The war under discussion here is on-going at the time of this writing, and hence we will examine the economic impact of the war on Egypt, the West Bank, Lebanon, Gaza, and Israel as of April 2024, though we will also discuss some possible future economic consequences to the war.

## **EGYPT'S ECONOMY**

Egypt borders on the Gaza Strip, which means the war between Israel and Hamas has affected its economy, even though Egypt is not directly involved in the conflict between Israel and Hamas. One minor positive effect from the war on Egypt's economy is that prior to the war most goods entering Gaza came from Israel, but now food and other supplies are being sent to Gaza via Egypt under the auspices of the Egyptian Red Crescent, which enables Egyptian firms to profit from selling these goods, which are paid for by various aid agencies (The Economist 2024c). On the other hand, an unexpected escalation of the war was that starting in November 2023 and continuing to the present, the Houthis in Yemen have attacked ships when they pass near Yemen. While initially the Houthis claimed they were only attacking ships that were travelling to and from the Israeli port of Eilat, they have also attacked numerous ships that are not linked with Israel and were either coming from the Suez Canal or travelling towards the Suez Canal. In February 2024, it was estimated that the number of ships travelling through the Suez Canal had declined by 50%, which reduces the transit fees that Egypt earns from passage through the canal, as usually these fees are 2% of Egypt's GDP (The Economist, 2024e). In addition, Egypt's tourist sector, which previously was rebounding from corona and contributed around 3% of Egypt's GDP, has also declined due to the war.

These declines in earnings compounded the debt problems that Egypt had been struggling with. Due these problems, prior to the war, Egypt had been in negotiations with the International Monetary Fund (IMF) for an aid package of 3 billion USD. However, in the midst of the war between Israel and Hamas, Egypt raised its request to 8 billion USD. This much larger aid package was approved by the IMF on 29 March 2024, and was justified since Egypt was/ is facing a “challenging external environment” namely the effects of the war between Israel and Hamas (IMF, 2024). This large aid has prompted Ahmed Aboudouth, from the Chatham House, to claim that overall “Egypt has benefited a lot from the war” (The Economist, 2024e, p. 32). This question of whether the war between Israel and Hamas will benefit or harm’s Egypt’s economy would then depend on how long will there be declines in shipping through the Suez Canal and reductions in the number of tourists’ arrivals to the country versus how beneficial will the IMF’s aid package be for Egypt.

## **THE ECONOMY IN THE WEST BANK**

While many people view the Palestinians in the West Bank and Gaza as compromising one entity, the West Bank and Gaza are two distinct non-contiguous areas (40 km apart at their closest point), and at different times in history, as for example from 1948-1967, there were practically zero economic connections between the two areas. Prior to the war, there was limited trade between Palestinians living in the two areas, and the fighting between Israel and Hamas in Gaza could have had no or very limited economic effects on the Palestinians living in the West Bank. However, immediately after Hamas’ attack, Israel was worried that Palestinians in the West Bank would join Hamas’ fight and Israel imposed several restrictions on Palestinians in the West Bank, which have negatively impacted on their economy.

The most significant restriction is that since 7 October 2023, Israel has revoked the work permits of around 160,000 Palestinians living in the West Bank to work in Israel (The Economist, 2023f). The World Bank (2022, pp. 8-10) estimated that prior to the war, Palestinians from the West Bank who worked in Israel comprised around 25% of Palestinians workers in the West Bank, and that the average daily wage of these workers was more than twice the daily wage of workers in the West Bank. Accordingly, Israel’s action to not allow Palestinians workers into Israel caused a significant contraction of the economy in the West Bank, and also the loss of these workers negatively impacted Israel’s economy.

Another restriction is that within the West Bank, Israel has imposed new checkpoints, which hinder or completely stop Palestinians from travelling within the West Bank (The Economist, 2024d).

A third action by the Israeli government is that the government has withheld much of the taxes that it collects for the Palestinian Authority (PA). In 1994, Israel and the PA signed the Paris Accords



in which Israel agreed to collect tariffs on goods that entered Israel but were destined for either the West Bank and Gaza and to pass on these tariffs to the PA. Prior to the war between Israel and Hamas, these tariffs constituted around 64% the PA's revenue, and hence Israel's action to withhold these funds, means that the PA cannot pay its workers (The Economist, 2024d).

Prior to 7 October 2023, the Palestinian economy in the West Bank had been growing. The World Bank (2023) reported that the economy in the West Bank had grown in 2021 and 2022, and that in the first quarter of 2023, the GDP in the West Bank had increased 4.3% year over year. However, with all the declines in economic activity since the start of the war, the World Bank (2024a) reports that in the fourth quarter of 2023, the GDP in the West Bank declined 22% (annual percentage changes) and for all of 2023, 2.5%. This is a short-term decline. The crucial question is what will happen when the war between Israel and Hamas ends, will the Palestinian economy in the West Bank rebound or will the restrictions, especially regarding access of Palestinian workers to working in Israel, become permanent, and then the Palestinian economy will face a long period of limited growth. This author's guess is that since Israel has not been able to replace the Palestinian workers, then once the war ends, or even beforehand if the war continues, then Israel will allow most of the workers to return, though there may be more security checks, and then the Palestinian economy should rebound unless there are new negative economic shocks.

## LEBANON'S ECONOMY

Ostensibly there is no reason why the war between Israel and Hamas should have any effect on Lebanon's economy since Lebanon's southern border with Israel is around 200 kilometers north of northern Gaza, but Hezbollah, the largest political and military group in Lebanon, which effectively controls southern Lebanon, decided to attack Israel almost immediately after Hamas attacked Israel, on 8 October 2023, to support Hamas. These attacks consist of Hezbollah shooting rockets, mortars, and anti-tank missiles into Israel, sending drones into Israel, and allowing various Palestinian groups that are in Lebanon to shoot these same types of projectiles at Israel. Israel has responded by attempting to target the people shooting into Israel, and to destroy various munitions and supplies of Hezbollah in Lebanon (The Economist 2024a). Incredibly, these almost daily exchanges of shootings are considered a "low-level conflict" and as of the writing of this paper, thankfully, have not escalated into a full-fledged war. The "low-level conflict" has led to numerous casualties in Lebanon and Israel, and has hurt both economies.

A shared negative impact on both Lebanon's and Israel's economies is that due to all of the shootings, many people on both sides of the border have moved away from the border to areas that are considered safer. This not only ends all run of the mill commercial transaction in the various

towns, which have become deserted, but also all farming in the areas near the border has practically ceased.

A second negative effect of the fighting between Hezbollah and Israel is that due to the ever-present threat of a full-fledged war breaking out, there has been a large drop in tourists in Lebanon. In 2019, Lebanon's economy had a meltdown due to a banking scandal, and its GDP has declined from 2019 through 2022. This contraction was beginning to stabilize with a large increase in tourist (51%) in 2022 and a decline of just 0.6% in its GDP in 2022. It was then expected that in 2023 finally there would be some minimal growth in Lebanon's GDP around 0.2% (World Bank 2023b). Instead, due to the war, it is estimated that Lebanon's GDP declined again in 2023 primarily due to the fall in tourists in the fourth quarter of 2023.

While one would like to believe that once the war between Israel and Hamas ends, then there will be a return to the relatively peaceful conditions between Israel and Lebanon prior to 7 October 2023, this is not self-evident. It is possible that the tense conditions on the border between Israel and Lebanon will remain in the foreseeable future, and then people will not move back to the border areas, and tourists could still be scared of coming to Lebanon. If that happens, then the conflict between Hezbollah and Israel will remain as a negative strain on both economies for quite some time.

## **GAZA'S ECONOMY**

Whereas the fighting between Hezbollah and Israel can be labeled as a "low-level conflict," the fighting between Hamas and Israel has been very intensive for six months from 7 October 2023 through 7 April 2024, which has led to a cession of production of almost all goods in Gaza. Yet, in order to assess the extent of this decline, we need to have an assessment of the economy in Gaza prior to war. However, it is difficult to get an accurate assessment of the economic conditions in Gaza prior to the war since much of the activities of Hamas, such as building tunnels, more than hundreds of kilometers, which has created subterranean cities, is not recorded in the official data about the area (The Economist 2024b).

Notwithstanding this difficulty, according to the official numbers of the Palestinian Central Bureau of Statistics, Gaza's GDP was increasing around 5% a quarter from the second quarter of 2021 through the third quarter of 2022, but then the growth rate started to decline, and in the first quarter of 2023, Gaza's GDP declined 2.6% (annual percentage change, World Bank 2023a). With the war, Gaza's GDP nosedived, declining by 80% (annual percentage change) in the fourth quarter of 2023.

The agricultural sector, which was not that large prior to the war, has been particularly damaged during the war, and the production of food has practically ceased (World Bank 2024b). This means that almost the entire population of Gaza is dependent of receiving aid to live on. According to

one estimate, prior to the war approximately 600 trucks containing commercial goods and aid entered Gaza a day. However, through the first six months of the war, on average only 121 trucks entered Gaza, though starting in mid-April, the number increased to around 400 trucks a day (Said, S., Lieber D. and Jones, R. 2024). Furthermore, as noted by the Economist (2024c), the distribution of the aid has become a logistical nightmare, and much of the aid has been stolen, which has led clans and gangs to control the distribution of the the aid (The Economist, 2024f).

Another opaque set of data in Gaza is the government budget data, since the finances of Hamas are not revealed publicly. According to unofficial estimates, Hamas generates income from collecting taxes on goods being imported in Gaza both above ground and through tunnels into Egypt, from donations from government and private individuals throughout the world and from investments in various countries (The Economist, 2023e). This money is used to provide social services in Gaza and to pay for Hamas' army. While the tax income from goods coming into Gaza during the war has fallen, it is very likely that Hamas had seen an increase in its revenue from donations during the war, and then this would be an economic benefit to Hamas from the war.

One definite economic cost of the war to Gaza has been the extensive damage to the capital stock in Gaza. In the first few days of the war the fighting was taking place in Israeli towns near the border with Gaza, but then afterwards, the fighting has occurred in the Gaza Strip, which has led to a huge destruction of the homes, the businesses and the infrastructure in Gaza. The World Bank (2024b), partially using satellite imagery, estimated that as of the end of January 2024, the cost of this destruction was 18.5 billion USD, which was 97% of the total GDP of the West Bank and Gaza in 2022. This estimate will definitely increase when the destruction that occurred in February, March and April is appraised. The largest damage was to the housing sector. As of the end of January, the war has damaged either completely or partially an estimated 62% of all homes in Gaza. This has led to numerous Gazans living in tents during the war, and it is not clear how quickly houses will be re-built even after the war ends, which means that many Gazans could be living in tents for quite some time.

Another economic cost of the war is that like in the West Bank, Israel has stopped allowing Gazans to work in Israel. Prior to the second *intifada*, in the first three quarters of 2000, 25,000 Gazans worked in Israel, but by the middle of 2004, there were no Gazans working in Israel (World Bank 2004). Gazans in limited numbers began to start working in Israel again after the war between Israel and Hamas in 2014, initially under the guise of being businessmen, and by 2023, the number of Gazans working in Israel almost returned to the pre-*intifada* days, albeit with a larger population, of 20,000 workers (Harel, 2019, and The Economist, 2023a). This was one of the most hopeful signs of Gaza's economy improving and of better relations between Hamas and Israel, but Hamas' attack on 7 October ended all these hopes.

It is extremely speculative to predict what will happen to Gaza's economy when the war between Israel and Hamas ends since it is not clear what will be the outcome of the war. Will Hamas continue to rule Gaza, which could lead Israel to end all economic connections, such as trade and banking, between Gaza and Israel that existed before 7 October? Or, will the Palestinian Authority or some new body that Israel will be willing to work with become the reigning power in Gaza, and then one would expect most of the bilateral economic ties that existed between Israel and Gaza prior to the war to return. One question even in the latter case is whether Israel will allow Gazans to work in Israel after the war ends. Another set of questions is what will be the economic links between Gaza and Egypt after the war ends? Prior to the war, there was limited movement of people and goods between Gaza and Egypt, and maybe after the war Egypt will open its border more fully with Gaza.

Another set of questions concerns the paying for the rebuilding of Gaza after the war, which might relate to the question of whether Hamas will be the reigning power in Gaza. After previous conflicts between Israel and Hamas, Qatar picked up the tab for rebuilding homes that had been destroyed, as according to one estimate Qatar gave Hamas, with Israel's approval, 1.1 billion USD from 2012-2018 (Kubovich 2019). However, in this war, the scale of destruction is so much greater than in previous conflicts, it is unclear if Qatar is willing to shoulder all of the costs. Will Hamas use its funds to help the rebuilding of Gaza? Will foreign donors be willing to pay for the rebuilding, and if yes, how much will they be willing to pay? Will these donors be willing to work with Hamas? If the rebuilding is a slow process, which it most likely will be, then that will certainly hamper the economic revival of Gaza, though it is possible, that due to the massive destruction, then the new infrastructure, which needs to be rebuilt basically from scratch, could be a significant improvement in comparison to the old infrastructure, which eventually would help Gaza's economy to recover.

## **ISRAEL'S ECONOMY**

Israel's economy is the only country under discussion here who the IMF lists as having an advanced economy, and in the latest United Nations Human Development Report (2023/24), Israel's Gross National Income per capita was 3.5 times higher than Egypt's and Lebanon's and six times higher than in the West Bank and Gaza. In order to understand the economic costs of the war on Israel, it is helpful to review the state of Israel's economy before the war.

In November 2022, Israel had its fifth election since 2019, and Binyamin Netanyahu, who has been Prime Minister of Israel from 2009 through 2021, resumed being Prime Minister of Israel. The government he formed was based on his political party, the Likud, two Ultra-Orthodox (Haredi) parties and depending on how you count, one to three parties who base are Jews who live in the West Bank. One of the first actions of the new government was to try to change various aspects of the

judicial system in Israel, presumably to help Netanyahu, who had been indicted for corruption on three separate criminal cases, and the first legislative success of this judicial change occurred in July 2023, when the Knesset, Israel's legislative body, voted to weaken the powers of Israel's Supreme Court. These attempted changes led to massive protests, which seems to have impacted Israel's high-tech sector, the leading economic sector in Israel. For example, in one survey in the summer of 2023, 68% of start-up firms were transferring the money they had raised out of Israel and changing the location of the registration of the company to being outside of Israel due to the proposed judicial changes (Veizberg, 2023). Furthermore, Israel's GDP had increased 2.6% (annual percentage changes) in the first quarter of 2023, 2.9% in the second quarter of 2023, but then the growth declined to 1.8% in the third quarter of 2023 (Israel's Central Bureau of Statistics, ICBS, 2024). Thus, Israel's economy was not in good shape prior to the war.

Hamas' attack on Israel on 7 October was a complete surprise to Israel, and Israel responded hastily by calling up 360,000 reserves (around 3.5% of Israel's population) and, for the first time in 40 years, Israel called up its entire armored corps (The Economist, 2023d). This panic was due to a fear of a war both in the south with Hamas and in the north with Hezbollah, but in retrospect it is clear that too many soldiers were called up as the army was not taking account of economic considerations when it called up its reserves. After a few weeks, the army began to gradually release the reserve soldiers, and as on April 2024 most of the reserve soldiers had returned to civilian life. In addition, initially as many as 250,000 Israelis were displaced from the south near Gaza and from the northern border with Lebanon, though after a short time, this number declined to 125,000, and as April 2024, there remain 27,000 displaced Israelis. Some of these people went to live with relatives, but many stayed in hotels, which the government paid for, 6.4 billion shekels as of April 2024 (Abdel-Baqui and Solomon, 2023; Haruti-Sober, 2024). Finally, in the beginning of the war, when Hamas was regularly bombing central Israel, many Israelis stayed home, and schools closed or had lessons on zoom, akin to lockdowns during corona. After a few weeks, the Israeli army successfully ended the bombings from Hamas, and gradually civilian life in Israel has returned to normal routines.

With all the people called up for the army and the displaced people, it was estimated that in the fourth quarter of 2023, around 20% of Israeli workers were absent from their jobs (Abdel-Baqui and Solomon, 2023). In addition, due to Israel's restrictions on Palestinians from the West Bank, many of whom work in construction in Israel, the housing industry collapsed in the fourth quarter of 2023, as the value of output of residential buildings declined by 95% in the quarter (ICBS, 2024). Another industry which took a huge hit was the tourist industry, as tourists stopped coming to Israel and initially foreign airlines stopped flying to Israel, though domestic hotels benefited from the government paying for the displaced people, and the major Israeli airline, ELAL, which continued to

fly throughout the period had a 370% increase in its profits (Ariel, 2024). Also, Israeli arms producers such as Elbit, have seen increases in orders both due to the war and increased in demand from European countries (Habib-Valdhorn, 2024). One surprising result is that Israel's high-tech sector has not been that adversely affected by the war, even though numerous high-tech workers were called up for reserve duty, and it seems that the proposed changes in the judicial system had more of a negative effect on the sector than the war (Gilead, 2023). In addition, the attacks by the Houthis are not expected to have a major effect on Israel's economy since the port of Eilat is a small port for Israel. In total, in the fourth quarter of 2023, Israel's GDP declined 19.4% due to the large fall in the housing sector, and large declines in consumer consumption and physical investment by Israeli firms, even though the spending by the government on the war and other social spending increased by 88% (ICBS, 2024).

It is likely that in 2024, Israel's economy will begin to recover from the huge decline in the fourth quarter of 2023 with the return of most soldiers to civilian life, and the war will not cause any large permanent reductions in the production of goods and services in Israel. One possible small reduction could be that if the agricultural areas near the borders with Gaza and Lebanon are not re-settled, then there will be a small loss in the future agricultural production in Israel. Another possible long-term loss could be that due to a backlash against Israel's policies in some countries, such as South Africa and Turkey, and by some individuals, there could be reductions in trade and foreign investment in Israel. On the other hand, a possible positive result of the war could be an increase in the labor force participation rate of Haredi men in Israel's economy. Many Haredi men do not serve in Israel's army and do not work, but due to the war, there has been pressure afoot in Israel to require some Haredim to join the army. If this would occur, then after they would finish their army service, these Haredim would probably join Israel's labor force.

Another question with regard to the permanent effect of the war on Israel's economy is the question how will Israel pay for the war? This question relates to Israel's government budget deficit and overall government debt. In the decade from 2010 through 2019, Israel managed to slowly reduce its government debt from 69% of its GDP to 59% of its GDP (IMF 2023). However, with corona, government spending increased massively and Israel's government debt jumped to 71% of its GDP in 2020. Surprisingly, Israel's government's revenue surged in 2021 and 2022 due to the high-tech sector and the housing sector, that Israel's government had a budget surplus in 2022, and the ratio of its debt to GDP declined to 61% in 2022. This trend ended with the new government, which went on a spending binge even before the war began to fund their "pet" coalition projects such as funding for Haredi institutions and Jewish settlements in the West Bank, and the budget deficit was higher than the planned deficit already in September 2023 (Dori, 2023a, b). With the war, spending by the Israeli

government increased massively both to pay for army expenses, and to compensate people who had been harmed by the war. This spending is “being paid for” by borrowing and increasing the ratio of the budget deficit to the GDP to 6.6% in the revised 2024 budget in March 2024 instead of cutting expenses. However, by April 2024 it was already evident that this high figure was optimistic, as of April 2024 it seems that the 2024 government budget deficit will be at least 7.5% of Israel’s GDP (Dori 2024). The Israeli government has increased some taxes (VAT starting in 2025, and the health tax), but it seems that the Israeli government is counting on the strong fiscal rebound that occurred after corona to happen again after the war ends. If this does not happen, and there is no reason to think that it will, then this will force the government to either increase taxes more significantly or cut expenses. Both of these actions could contribute to a brain drain from Israel, a process that might already have started with the proposed judicial changes, and if this occurs, this would be a permanent negative effect of the war effect on Israel’s economy.

## CONCLUSION

The economic effects of wars can be positive or negative depending on numerous factors, as for example, how much destruction occurs due to the war, does the war stimulate economic production, and does the war lead to improved economic opportunities after the war. In this paper, we have briefly reviewed the economic effects of the war between Israel and Hamas, six months after the war began on 7 October 2023 on the economies of Egypt, the West Bank, Lebanon, Gaza and Israel. For all of these five areas, there have been definite economic losses from the war, and only in Egypt, who is not directly involved in the war, has there been to this point some economic benefit from the war, which might be greater than the losses to its economy from the war. When the war ends, depending on the outcome of the war, maybe there will be some new economic opportunities in the five areas, but as of April 2024, the economic costs of the war in the four areas, the West Bank, Lebanon, Gaza and Israel just compound the human suffering of the war.

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## HAPPY COUPLES – HAPPY SMART CITIES? WILL ONLINE DATING PLATFORMS INCREASE HAPPINESS IN SMART CITIES?

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### ABSTRACT

This research is about the link between Online Dating Platforms, Sustainability and Smart Cities. It adds the fourth pillar of sustainability to the traditional three pillars: social, economic, ecological and fourth: online life. The research question is: How can Online Dating Platforms contribute to Smart Cities? New technologies in Online Dating Platforms, especially Artificial Intelligence, are changing the way Online Dating Platforms are used by daters. From the standpoint of sustainability, innovation management and entrepreneurship development the Online Dating Business is bringing a positive venue to Smart Cities through Sustainability and Happiness. Hence, this study investigates how 'sustainability', 'responsible leadership' and 'online dating platforms' are linked, and more specifically, how to avoid the uncertainty involved in new encounters in online dating platforms and/ or in business. Additionally, the study makes the connection between online dating platforms' love and online dating platforms' distrust and lies. To reach this goal, the author uses data collected in interviews with 15 respondents from January 2024 until April 2024, and from previous studies from 350 respondents about online dating platforms from 2020 until 2023, and with 197 respondents about responsible leadership from 2015 until 2019. It is about Responsible Leadership in Smart Cities. The fourth pillar of sustainability - online life - is added to the three traditional pillars: social, economy, and environment. This is innovative regarding Social Innovation, enhancing social integration, human relations, happiness in general and a creative way to improve Smart Cities.

*Keywords: Smart Cities, Online dating platforms, Sustainability, Creativity, Digitalisation, ICT, Happiness, Imagination, Responsible Leadership, Hofstede's cultural dimension Uncertainty Avoidance*

### INTRODUCTION

The purpose of this study is to explore how 'online dating platforms' are related to 'smart cities' (Kaufmann et al., 2020), 'sustainability' (Vrontis et al, 2020), and 'responsible leadership' (Maccoby, 2011; Schinzel, 2018; 2019; 2020) seen from an innovation standpoint (Leonidiou et al, 2020), and, more

specifically, how to mitigate the uncertainty (Hofstede, Hofstede, and Minkov, 2010) involved in online dating platforms and business encounters. The research question is: How can Online Dating Platforms contribute to Smart Cities? Research about 'Smart Cities' has been in the focus for the last years (Albino et al., 2015; Angelidou, 2015; Chamoso et al, 2018; Lwakatare et al, 2015; Senapathi et al, 2018), the link to 'online dating platforms' is innovative and the author's contribution to knowledge.

A by-product of this question is the proposition that the imagination and creativity used in personal misrepresentation on online platforms have the potential to be used in the process of the recruitment of new employees in organizations.

Online Dating Platforms have seen significant increase in use in the last years. With the coronavirus pandemic confining people to their homes, they went online to socialize in general, and on Online Dating Platforms in particular. Once the pandemic was over, they remained online. Research and experience have shown that people are not always completely honest, nor in presence, nor online, by not always telling the truth about themselves. While some might see misrepresentations as 'lies,' others may see them as 'imagination' or 'creativity,' and yet others as the mis-representer's 'second life.' Hence, creative misrepresentations produce new useful ideas for the future, at universities among others (Papaleantiou et al, 2014).

How much responsibility lies with the management of the online dating platforms to ensure the security of their users through 'responsible leadership' and overcoming 'uncertainty avoidance'? Deception comes from lies, told by the online partners (Markowitz and Hancock, 2018). Are these partners lying or are they using their 'creativity' and 'imagination'? Do they use misrepresentation of personal attributes such as age, gender, photos, salary, availability and other characteristics to allow themselves to experience a 'second life' of another person, online, and sometimes in reality?

The research question is: How can Online Dating Platforms contribute to Smart Cities? What is the link between Smart Cities, sustainability, responsible leadership, and online dating platforms? A secondary associated question is: How can one mitigate the uncertainty that exists in new encounters on online dating platforms? The study contributes to knowledge by linking and offering a comprehensive model of the relationships between Smart Cities, sustainability, responsible leadership, online dating platforms and uncertainty avoidance.

While every new encounter, online or in presence, dating or while negotiating, brings uncertainty, the question is how to mitigate this uncertainty and to increase the safety for the users. Additional questions come to the researcher's mind, such as: While digitalisation is the big winner of the 2020/2021 coronavirus pandemic (Schinzel, 2021), what are crucial parameters for a safer on-line future (Harari, 2020)? What are the dangers behind this (Harari, 2020; Floridi, 2014)? And what is the outlook for the future? Thus, this timely research about digitalisation of remote collaboration, friending, networking,

and, of course, romantic dating, combines research about Smart Cities (Kaufmann et al, 2020), with Geert Hofstede's (2001) cultural dimension of 'Uncertainty Avoidance' and Maccoby's (2011) 'Responsible Leadership' with 'online dating platforms' (Markowitz and Hancock (2018) and the success of– Information Communication Technologies (ICT) and the Internet of Things (Leonidou et al, 2020; Santoro et al, 2018). It may also result in the improvement of the use of negotiation tactics as examined by Stefanidis, Banai, Schinzel (2021) and Stefanidis et al. (2016). Moreover, this research offers unexplored ways of collaboration and networking; unexplored, unelected, un-lived ways of knowing new people, and letting our imagination flow. More specifically, focus is drawn more on our imagination than on our lying capacity (Schinzel, 2021a, 2021b).

## SMART CITIES

Smart Cities "are no longer about optimized traffic patterns, parking management, efficient lighting and improvement to public works." (Gartner, 2018). Following Kaufmann et al. (2020), key elements are "increased interconnectivity, real time data exchange, machine learning based on artificial intelligence implying self-controlling production systems. The "four perspectives of DevOps are: 1) Collaboration Culture; 2) Automation; 3) Knowledge (architecture, cloud computing, threat modelling); Sharing knowledge (product and sprint backlogs). Key success factors for the Smart Cities of the future are, following Kaufmann et al. (2020): Connectivity and Networks between administration, Stakeholder and Citizens. They differentiate between different competences required by The Smart City Planner, The chief Digital/IT officer, The Co-operation with external partners, and Training demand. These different competences are: 1) Specific Technical Competences, 2) General technical / Transversal competences, 3) Methodological competences, 4) Social competences, 5) Personal competences, 6) Legal competences, 7) Smart City Planner's competences, 8) Civilizational competences.

Following Bencardino and Greco (2014) "smart city" is generally meant as a city capable of joining "competitiveness" and "sustainability", by integrating different dimensions of development (economic, mobility, environment, people, living and governance).

For Kar et al. (2019), research moves beyond 'Smart Cities', to 'Digital Nations', involving the betterment of diverse social innovation initiatives, interdisciplinary approaches, and intellectual property creation with the citizen being the most important stakeholder. It is especially about innovation, the Internet of Things, Artificial Intelligence, and data driven services. Smart cities require smart citizens who need to be developed in the following domains: 1) digital, 2) social, 3) economic, 4)

professional, and 5) personal. Governments need to take initiatives of empowerment in 1) relational, 2) cognitive, 3) behavioural and 4) psychological domains.

Different cultures have cultural differences and need different approaches. This is where Geert Hofstede's research on cultural differences intervenes.

## **SUSTAINABILITY**

Traditionally, sustainability has three pillars, namely social, economic, and ecological life (Purvis, Mao and Robinson, 2019). This current research adds a fourth pillar: online life. Sustainability, and especially sustainability in online services, has become a focus of interest in the last months and years, notably due to its complexity and dynamism, sometimes unpredictability, constituting a powerful stimulator in many social and economic aspects (Fait, Vrontis, Maizza, and Cavallo, 2019). Particularly, and furthermore the current central question is how sustainable are online dating platforms, and in case, how to increase their sustainability? Using technology advancement to increase chances in first dating and finally marriage in research conducted by Izang, Kasali, Ajayi and Adegbenjo (2020) proved them right in their hypothesis about the positive link between the use of social media and sustainable marriage, notably in a world with increased time spent on communication devices and social networks. Especially, and because of the benefits provided by the companies behind the online dating services, the revenues generated, the employment created, these online dating platforms constitute an economic and commercial factor not to be neglected my marketing, communication and management in terms of sustainability and profitability (Jung, Bapna, Ramaprasad, and Umyarov, 2019).

## **RESPONSIBLE LEADERSHIP**

Maccoby (2011) defines leadership as follows: "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."

This research concentrates on 'responsible leadership,' as a leadership style, that is classified along other leadership styles (Northouse, 2012) such as autocratic leadership, laissez-faire leadership, strategic leadership, responsible leadership, transformational leadership, transactional leadership. Responsible Leadership spans three areas: economic, social/human, and ecological (*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). In this fast-changing world, and following technology used in online dating platforms, combining artificial intelligence and human resource management (Vrontis et al, 2022) has the potential to enhance organizations' recruitment technology and process.

## HOFSTEDE'S CULTURAL DIMENSION OF 'UNCERTAINTY AVOIDANCE'

In the 1960s, Geert Hofstede defines cultural dimension 'Uncertainty Avoidance' (UAI) as "the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity." The 1960s and the 2020s span 60 years of fast changes and innovation in the Information and communication Technology (ICT), justifying highlighting the following sentence of this definition by Geert Hofstede: "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 insights, 2024). Contemporary developments, especially the Internet, online presence, and ICT, allow for particularly different views of what is 'unorthodox behaviour and ideas' in the 2020s compared to the 1960s regarding traditional ways of encounters.

## ONLINE DATING PLATFORMS

Social innovation can be online dating (Blossfeld and Schmitz, 2011). Traditional encounters for some of us – mainly the young generation - might be **online**, while for others – mainly the old generation, might be **in person**. However, in every new encounter, might it be online or in presence, the three following theories apply equally: Impression Management, Truth Management, and False Consensus Effect. Especially lies. Or, more precisely, small lies, let's call them misrepresentations or small deviations of the reality, you might say: fantasy, objects of our dreams, wish-to-be. First, strikingly, called "**impression management**" (Markowitz and Hancock, 2018; Ellison et al, 2012, 2006), meaning the beautification of one's self-presentation, where people would deviate slightly in describing their personal attributes such as age, height, weight, professional occupation, personal interests and hobbies, leisure priorities, sexual preferences, alcohol consumption, smoking, and 'personality traits', as well as showing earlier age photos, (Lim, 2021). Second, considering the before said, '**truth management**': where you would ask yourself if the person was telling the truth or not. Consequently, Levine (2014) developed the **Truth-Default Theory**, suggesting that despite knowing the other person, you can never collect enough information about a person to be able to make the right judgement. Thus, focus is drawn

on the deception originated by these lies. Third, there is the **'false consensus effect'** (Epley, 2015) which suggests that daters decide if it is acceptable to lie because they surmise that the other person also lies. Fourth, people might deviate from the reality and be creative when talking about their 'availability.' This is called **'availability management'** and involves marital and/or relationship status availability, general time availability, and, more specifically, time for meeting in person availability. Furthermore, some people may underestimate the time any kind of relationship expected of them.

In recent months, focus has been drawn on the **'safety'** of users by reducing the 'uncertainty of dating platforms' (Corriero, and Tong, 2016); and by online dating platform requiring users to publish information and share it with all other daters. This information includes identities, background information, criminal records, court records, sex offender status, marital status, lawsuits, and personal reviews. In fact, the strengthening of users' **'safety'** has at the same time increased the discussion about a 'complete surveillance' of people. Obviously and consequently, the suggestion for complete traceability of everybody's movements on mobile tracing applications instigated a discussion about the advantages and disadvantages of total surveillance and controllability. Therefore, scholars Yuval Noah Harari (2011, 2015, 2018, 2020) and Luciano Floridi (2011, 2014, 2019, 2020) discuss the risks and opportunities, and the chances and problems of ICT, before the pandemic. Additionally, the ICT discussion does not only include topics like safety, surveillance, and controllability, but also communication, and more specifically 'digital communications,' calling for more professional entrepreneurial education (Papageorgiou et al, 2021).

## A PROPOSITION

New technologies and computer applications have made the use of such dating and other social and business platforms more acceptable in general, and for Smart Cities in particular. Thus, they are used as a means for improvement of Smart Cities, for the quality of life, where diverse competences are required to improve the quality of life of the citizens. They allow for creativity, imagination, change, and innovation, essentially becoming acceptable means of meeting new people, in private or in business. Hence, the author formulates the following proposition: *a fourth pillar is added to the traditional three pillars of sustainability: 1) social life, 2) economic, 3) ecological and 4) online life. Due to the pandemic, new ways of in-person or online dating platforms encounters stimulate and facilitate life in Smart Cities and their development, by enhancing imagination and creativity not only in private life but also in the workplace.*

## METHODS

For the purpose of this research, the author interviewed a total of 15 respondents in semi-structured interviews from January until April 2024, asking them mainly: "How do Online Dating Platforms

contribute to Smart Cities?" Interviews were conducted in several languages, English, French, German, Luxembourgish, Italian, Spanish, Portuguese, and translated to English.

In several previous studies, the author had already performed other similar and different research about 'online dating 'platforms', namely, from 2020 to 2022, and in the heat of the coronavirus pandemic, the author investigated 'Love and lies on online dating platforms' (Schinzel, 2021, 2022b) by combining the result of previous studies about 'Responsible Leadership' and 'Uncertainty Avoidance.' Additionally, and to double-check the validity of the proposition, 32 semi-structured interviews were performed in 2022 for the purpose of another previous study.

For the purpose of another study (2021) a total of 242 people were contacted in writing, by telephone or in person via an online dating platform. Out of the 242 participants, first communication contact was in written on the platform, while with 179 this written communication ended then on the platform, 63 were contacted by phone and meetings in person were organized with 18 respondents once, 5 twice, 2 three times and 5 several times. Mainly, 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.

Another previous study from 2022, consisted of 32 semi-structured interviews and was performed with the objective of validating the findings from the 2021 study, what indeed had been confirmed. The author contacted online acquaintances through face-to-face, WhatsApp and dating platforms, therefore using a convenience sampling. For confidentiality and anonymity reasons, notably not to reveal the true purpose of being on the platform, interviews were chosen over questionnaires.

## RESULTS

The results from this current research show mainly that 15 out of the 15 respondents believe in the increase in 'happiness in general' through online dating platforms in smart cities. It is believed that happy couples make happy citizens.

**Table 1 How can Online Dating Platforms contribute to Smart Cities?**

|    | Table 1 How can Online Dating Platforms contribute to Smart Cities?   | N = 15 |
|----|---|--------|
| 1  | Increase of 'Happiness in general' of the citizens  | 15     |
| 2  | They help the development of the multi-disciplinary Smart City Phenomena  | 13     |
| 3  | They represent the development of smart cities intellectual minds   | 13     |
| 4  | They improve 'the quality of life in general'   | 14     |
| 5  | Citizens embark on an intensive change process  | 12     |
| 6  | Citizens unlearn ingrained behavioural patterns   | 13     |
| 7  | Citizens internalise an 'Innovative competence set'   | 13     |
| 8  | They represent an increase in digital and transferrable skills  | 12     |
| 9  | They require more strategic roles of the Smart City Planner / City Chief Digital Officer / City IT Officer / Smart City Administrator | 10     |
| 10 | They represent an intensive change process to determine the gap of competences needed for Smart Cities                                | 12     |
| 11 | New digital technologies facilitate the Smart City development  | 15     |
| 12 | These new digital technologies and especially Online Dating Platforms provide/require newly emerging job profiles                     | 15     |
| 13 | A specialised software needs to be developed for Smart Cities, such as DevOps.  | 15     |
| 14 | This specialised software could include 'online dating'   | 15     |

How can 'Online Dating Platforms' contribute to 'Smart Cities', was answered mainly by the points mentioned in the above table, by 1) an Increase of 'Happiness in general' of the citizens; 2) They help the development of the multi-disciplinary Smart City Phenomena; 3) They represent the development of smart cities intellectual minds; 4) They improve 'the quality of life in general'; 5) Citizens embark on an intensive change process; 6) Citizens unlearn ingrained behavioural patterns; 7) Citizens internalise an 'Innovative competence set'; 8) They represent an increase in digital and transferrable skills; 9) They require more strategic roles of the Smart City Planner / City Chief Digital Officer / City IT Officer / Smart City Administrator; 10) They represent an intensive change process to determine the gap of competences needed for Smart Cities; 11) New digital technologies facilitate the Smart City development; 12) These new digital technologies and especially Online Dating Platforms provide/require newly emerging job profiles; 13) A specialised software needs to be developed for Smart Cities, such as DevOps; and as a consequence of this: 14) This specialised software could include 'online dating'.

"Working towards a common goal that enables the fast flow of planned work into production while achieving world-class stability, reliability, availability, and security" is the definition of DevOps by the DevOps Institute (2019, p.15).



*Quotes:*

One of the respondents said: “The easiest way to achieve this is if the City Planners include a section ‘online dating’ into the specialised software for Smart Cities. Directly on the government website, there could be a link to the online dating platform, or the government could develop themselves their own dating platform, free of charge. This would be really innovative. Like the initiative in Luxembourg City to have a ‘Sports Pour Tous’ – ‘Sports for All’, that allows everybody to exercise or for free or at a very low price, the Luxembourg City could also have an ‘Online Dating’ on their <https://www.vdl.lu/fr> website. That would be really innovative, new, and people would have a look!”

Another respondent said: “Please have a look at the following websites, we use them in our company for innovation: <https://www.dworldvr.com/> This is ‘The world’s first ever Virtual Economy DWorld, where you experience real life in the METAVERSE. The different worlds are 1) Retail, 2) Tourism, 3) Real Estate, 4) Yachting, 5) Events, 6) Hospitality.

DWorld: “DWorld has recreated the first virtual twin of a country within the metaverse in the world starting from the Principality of Monaco. We recreate smarter and greener virtual twins of cities worldwide, integrating all the main economic sectors in one single virtual reality platform to start the era of the V-Economy. Live breathtaking experiences within a dynamic, immersive and interactive environment representing the more sustainable world of tomorrow.”

Respondent Nr 3 said: The future of work has these following challenges: 1) Real Estate, 2) Technologies, 3) Transportation, 4) Taxation, 5) Sustainability. You can check this on the website <https://www.linkedin.com/company/hrcommunitylu/>

Respondent 4 said: “We could call the direct link on the government’s website to a dating platform: ‘Couples Heureux pour Tous’ in English: ‘Happy Couples for All’ - in accordance with ‘Sports pour Tous’ or in English ‘Sports for All’

Respondent 5 said: “We could have a direct link on the website of ‘Sports pour Tous’ to online dating, this would be good as participants would already be sporty. There is a ‘Cycling Dating’ in Luxembourg, but Luxembourg is too small to have enough participants on that online dating platform, we would need to go to Bruxelles Online Cycling Dating” to allow for more people to be there.”

The results from the previous studies from the years 2021 and 2022 revealed that respondents lied mainly about the following items (Schinzel, 2021a, 2021b, 2022b): their name, their profile photos (using photos 10 or more years younger), their gender (women who pretend to be men and vice versa), their age, their ‘availability’, their salary, other characteristics (such as their true motive for being there, alcohol consumption, smoking, sexual preferences, abuse (these traumatizing 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 traumatizing 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), or 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, or sexual abuse by a family member.

Here is the representative quote of one of the respondents: "In my opinion, it is NOT about lies. On the contrary, online dating platforms allow for the participants to live some kind of 'second life', where they are living a kind of 'dream', being a different person, a person they would have always liked to be in real life. However, reality is not what they wish it to be. Here they can live their creativity, their fantasies, like a child exploring an unknown world, allowing for new experiences, to live under cover, with a different name, a different photo/image, or a different gender. Their creativity and fantasy are limitless, permitting borderless imagination, where streets are interconnected with secret passages, leading to unknown labyrinths, new people, funny encounters, great discussions, bringing excitement in their otherwise boring lives."

The 2022 study yielded the following results:

Out of 32 respondents, 29 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, including the prevention of perversity and crime. There are unknown possibilities of new encounters that remain to be explored paving new ways of creativity (Papaleontiou, 2014) and imagination.

However, the answer options depend on the age and/or on the gender of the respondents. The younger the respondents get, the more they are 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' for 'talent management' strategies in 'human resource management' strategy (Schinzel, 2022a).

Here are representative quotes from five respondents in the 2022 study.

**Respondent 1: (female, age 30-40, working in a bank)**

"The Coronavirus pandemic has changed the behavior of many people. I think that 'Leadership' and 'Online Dating' are 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

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.

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 their social media channels in parallel with work / school / conferences / etc. The young people will mix all 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 (female, age 25-35, working in education)**

"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 received 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 whole express themselves."

**Respondent 3: (female, age 30-40, working in a bank)**

"Big job changes are to be foreseen. Why is this so? For several reasons. People are working remotely – from far 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 their free time. Or they have a partner who earns enough money for two. Or they are just 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, where supermarkets have 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 a large, refrigerated storage places for overnight orders.”

**Respondent 4: (male, age 50-60, working in education)**

“Even though I haven’t used online dating platforms for years, being happily married, 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 platform 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 easier 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” the following points are essentials: 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, such as laptop, headset, and consideration of an indemnity for people who work from home such as an Internet connection, desk, chair, additional screen, and others.”

**Respondent 5: (male, age 20-30, student)**

“I believe that each person needs to be responsible in both. Not all new encounters in business result in deals signed and not all new encounters in online dating platforms would result in a wedding. 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.

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.”

## **DISCUSSION: ONLINE DATING PLATFORMS AND SMART CITIES: THE FOURTH PILLAR OF SUSTAINABILITY: ONLINE LIFE - STRATEGIES FOR SUSTAINABILITY FOR ONLINE DATING PLATFORMS**

Over the last ten years research of Smart Cities and sustainability has mainly focused on three pillars (Purvis, Mao and Robinson, 2019): a) social life, b) economy and c) environment (Thompson, 2017). This current research, however, adds a fourth pillar to the above mentioned three: d) Online life. On the one hand, this research follows on research conducted by Izang et al. (2016) on 'sustainable marriage' and focuses on 'Sustainability on Online Dating Platforms'. On the other hand, it generalizes the investigation to include 'creativity and imagination' (Papaleontiou et al. (2014) and 'digital communication' (Papageorgiou et al., 2021). Especially the 'community effect', generated by online dating platforms, is of interest for the community sustainability and the profitability of the online dating platforms (Jung et al., 2017). Notably, and this is the conclusion of Mouratidis & Papagiannakis (2021), virtual mobility increases ecological sustainability by reducing traffic, especially by reducing and changing transportation, leading to more sustainable cities and society in general. The strategy for the future is to become more sustainable by being online, the fourth pillar of sustainability – social life, economy, ecology, online life.

## **CONCLUSION**

The contribution of this study to practice could be the following: Online dating platforms could be an integral part of Smart City's Software. Already by now, Online dating platforms are not only used for romantic relationships, but also for friending and networking, for collaborating and working together, negotiating, and even recruiting new staff, as shown by the BBC (2021). This has a great potential to progress and develop in the future in Smart Cities by enhancing stability, reliability, availability and security. Parallel online activities, such as networking, friending, collaborating, negotiation, communication, working, and relaxing stimulate imagination and creativity. Unlimited use of online services, in all aspects of life, may create new concepts that may lead to a completely new concept of Smart Cities without boundaries. It may establish new ways of human activities such as shopping, working, transport – street, rail, air, sea, - friending, contacting, recruiting, negotiation, collaborating (Mouratidis and Papagiannakis, 2021). Future research may investigate the relationships among Online Dating Platforms, Artificial Intelligence and information communication technologies, and develop new domains, such as negotiation (Stefanidis et al. (2016).

Despite some lies on online dating platforms, creativity, argue Papaleontiou et al (2014), increases the possibility to create new knowledge and ideas, where everybody and everything is connected, while using all social media in parallel for all kinds of purposes. Artificial Intelligence and ICT are used

thanks to ever growing creativity and imagination, outside-of-the-box-thinking, while Geert Hofstede's (Hofstede insights, 2024) cultural dimension 'Uncertainty Avoidance' was propagated in the 1960s, other ways of thinking are acceptable in the early 2020s. A fourth pillar is added to sustainability: social life, economy, environment, and online life, with user friendly connected infrastructure (Albino et al., 2015).

The combination of 'Online Dating Platforms' with 'Smart Cities' is innovative. The creation of a direct link on the website of the government to an online dating platform would be a 'nice to have' solution for the future of smart cities. Or the direct link from a sports association to an online dating platform.

## FUTURE RESEARCH

Future research could focus on the implementation of this direct link on the government website to an online dating platform and evaluate the results. Using more statistical methods by using big data and a bigger number of respondents would help to come up with better statistics and correlations.

Future research could also be a cultural comparison among different nations in Smart Cities – in Digital Nations - following Geert Hofstede.

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## INNOVATION ACROSS CULTURES: EXPLORING THE INTERSECTION OF INTERNATIONAL ENTREPRENEURSHIP, TECHNOLOGIES, AND INTERCULTURAL DYNAMICS

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### ABSTRACT

**Purpose** - This study explores the impact of globalisation on international entrepreneurship, examining how emerging technologies such as artificial intelligence and blockchain have changed the global entrepreneurial landscape.

**Design/Methodology/Approach**—Data was collected using the Scopus database, focusing on keywords related to emerging technologies and entrepreneurship. A textual analysis was then carried out using Leximancer, this study takes into consideration 131 articles in order to identify and analyze the links between the various factors under study.

**Findings** - The study identified key interconnections among digitalisation, multiculturalism, changes in business models, and international entrepreneurship. Digitalisation has transformed the entrepreneurial landscape, creating new opportunities and challenges.

**Research Limitations/Implications** - The research offers a foundational understanding of contemporary international entrepreneurship but is limited by the scope of data from the Scopus database and specific keywords. Future research should expand the range of data sources and keywords for a more comprehensive analysis. Further empirical research is necessary to validate and expand upon these findings.

**Originality** - The study emphasises integrating digitalisation and emerging technologies into entrepreneurial strategies to seize global opportunities. It underscores the transformative impact of technologies like AI on market interactions and the need to adapt business models to the digital age. Additionally, it highlights the critical role of cultural diversity in international entrepreneurship, suggesting that a multicultural approach can enhance global business success.

*Keywords* - *Entrepreneurship, Marketing, Innovation, Value creation, Systematic literature review, International Entrepreneurship, Interculturality*

## 1. INTRODUCTION

In recent years, the concept of international entrepreneurship (IE) has seen substantial development and has garnered growing attention from both academic and business communities. Beginning in 1988, the IE has been defined as the development of international new ventures or start-ups that, from their inception, engage in international business, thus viewing their operating domain as international from the initial stages of the firm's operation (McDougall, 1989). The present research aims to explore in depth the intersection of IE, new technologies, and cross-cultural dynamics within the increasingly dominant field of digitalization. Through a detailed analysis, a comprehensive framework for opportunities and challenges arising from this complex interaction will be defined. The aim is to understand how these interactions influence business strategies, technological innovation, and the management of cross-cultural relationships in an increasingly globalized and digitally connected context. In the last ten years, interest in information technology research has increased significantly and rapidly, mainly due to the globalisation of the world economy (Chae & Goh, 2020). According to Vinogradov E. et al. (2021), the number of emerging businesses and the opportunities they have to network and grow through partnerships, acquisitions, and mergers are clear indicators of the impact of globalisation. The opportunities and advances provided by new access to the global economy are making it easier for companies to develop and expand worldwide. The term "globalisation" can describe a spatially valuable process that enables a business to expand its operations beyond national borders to other continents (Liu et al., 2020).

Especially, this issue is spreading in nations such as the US and the UK, where it was unthinkable only a few years ago (Berman et al., 2023). Thus, some businesses are reconsidering their location plans by decreasing international trade, people-to-people interactions, and knowledge transfer in response to the growing threat of economic nationalism (Hoda, 2019). Digital technologies are changing entrepreneurship as a practice (Si et al., 2023). They enable the digital transformation of the entire traditional entrepreneurial process and facilitate new entrepreneurial opportunities (Berman et al., 2024). New technologies, rather than nationalism, are the enabling factors for IE. Examples include the Internet, communication technologies (ICT), Industry 4.0, additive manufacturing, artificial intelligence, blockchain, and the metaverse (Elia et al., 2020). As reported by Giuggioli & Pellegrini (2023) AI techniques can significantly improve the decision-making systems employed by entrepreneurs, leading to higher quality decisions that are both more effective and efficient, thereby enhancing overall operational performance. Business processes are changing due to new technologies, opening up many options for global entrepreneurs and start-ups (Liu et al., 2020). For instance, by altering how services are provided to clients, blockchain technology in the service trade decreases the significance of middlemen (Chalmers et al., 2021). Technology has enabled the trade of commodities

and services across national borders that were previously considered untradeable, even if the COVID-19 epidemic has made the expansion of IE more difficult (Chae & Goh, 2020). New technologies are thus facilitating global interaction and communication creating opportunities that were unimaginable a few years ago (Zahra, 2021). In fact, technologies in entrepreneurial ecosystems enable entrepreneurs to find new ways to create, deliver, and capture value, allowing them to pursue entrepreneurial opportunities (Marinelli et al., 2023). Nowadays, even the physical IE is permeated by multicultural dynamics due to effortless connectivity and linkage (Pidduck & Zhang, 2022). Added to this is the phenomenon of digitalization, which can create new barriers and reduce geographical distances by reducing information asymmetries. Due to this duality, a comprehensive study of the dynamics of emerging technologies in global entrepreneurship is necessary (Lesinskis et al., 2023). Due to the limited prospects of cultural synergies caused by these transformations, some tensions require the development of new socio-intercultural entrepreneurial skills and competencies to effectively manage organizations. One of the main barriers to digitalization is related to organizational culture. An aversion to change, characterizing both owners and employees (Cardinali et al., 2022). Zahra (2021) stated that, in the context of international entrepreneurship, it is essential to study how entrepreneurs tackle new issues brought about by nationalism globalization and the increasing use of new technologies. In this sense, the research questions are: *RQ1*. What are the implications of emerging technologies on entrepreneurship, particularly in the context of digitalization? *RQ2*. How have the changes brought about by digitalization transformed the entrepreneurial landscape? *RQ3*. What impact do cultural differences have on the entrepreneurial world, and how do they relate to technological developments? In addition to making a significant contribution to the body of literature by filling in current gaps and paving the way for future research in the field of IE and digitalization, this study aims to present a comprehensive framework that highlights the opportunities and challenges that arise from the dynamic interaction between entrepreneurship, technology, and cross-cultural dynamics (Elia et al., 2020). The uniqueness of our paper stems from its updated and comprehensive perspective on international entrepreneurship in the modern world. Our methodological approach involves using the Scopus database and specific search criteria to retrieve relevant data for analysis (Massaro et al., 2021). The research focused on keywords that encompass various technological developments and entrepreneurial topics, as described in the literature (Candeias Fernandes & Franco, 2021). In this study 131 articles were considered, and subsequently the collected texts were analysed using the text analysis programme Leximancer (Fossen F. M. & Sorgner A. 2021), which proved to be useful for the investigation and analysis of key concepts. This study adopts an exploratory approach to examine the relationships between digitalization, multiculturalism, changes in business models, and international entrepreneurship. Our aim is to explore the complex

dynamics that characterise the interaction between these factors and their impact on the global entrepreneurial landscape. The introduction to the synthesis of methodology and results in the introduction is an excellent way to provide an overview of our approach and conclusions. Digitalization, multiculturalism, changing business models and international entrepreneurship are fundamental elements in the global entrepreneurial landscape that significantly impact business strategies and growth opportunities (Wilk V. et al., 2021). The widespread adoption of digital technologies has revolutionised business processes and offers new possibilities for innovation, communication, and global market penetration. In this context, artificial intelligence and digital platforms foster businesses international growth by enabling them to swiftly adapt to market demands and provide personalised solutions to customers (Fossen F. M. & Sorgner A. 2021). Correlations have emerged between the adoption of digital technologies and entrepreneurs, with the implementation of tools such as AI directly influencing companies' decision-making and operational processes. In the following section, the methodology adopted to conduct the study will be analysed. Subsequently, in Section 3, the principal findings are comprehensively interpreted. In section 4, the findings are discussed and interpreted considering the implications and criticism found. The article is finally concluded in section 5.

## 2. METHODOLOGY

The current study adopts an exploratory approach to examine the correlations among digitisation multiculturalism, changes in business models, and international entrepreneurship (Rayna & Striukova, 2021). This methodological approach is chosen to delve more deeply into the complex dynamics that characterise the interaction between these factors and their impact on the global entrepreneurial environment (Elia et al., 2020). In particular, the aim is to understand the role of digitisation in overcoming multicultural challenges, a relevant aspect for companies operating on a global scale as it directly influences their communication strategies, human resource management, and market penetration (Kraus K. et al., 2022). The authors employed the Scopus database, and specific search criteria were used to retrieve relevant data for analysis (Oppioli et al., 2023). The research focussed on a series of relevant keywords:

*TITLE-ABS-KEY ("Blockchain" OR "Artificial Intelligence" OR "Big Data" OR "Metaverse" OR "Industry 4.0" OR "Additive manufacturing" OR "Cloud manufacturing" OR "Internet of Things" OR "IOT" AND "International entrepreneurship" OR "Intercultural entrepreneurship" OR "Digitalization and entrepreneurship" OR "Entrepreneurial internationalization" OR "Cross-cultural" OR "Digital entrepreneurship" OR "Interculturality and Digitalization").*

Subsequently, the collected texts were analysed using the text analysis programme Leximancer (Frank M., 2021), which proved to be a valuable tool for identifying and analysing key concepts in the texts. Leximancer operates in two phases: initially, it identifies the meaning of words, and subsequently, it analyses their interconnections. This approach allows for a deeper understanding of the conceptual relationships within the texts (Hristov et al., 2021). Using Leximancer, significant relationships between concepts have been identified, such as the relationship between digitisation and management (Smith & Humphreys, 2006). Correlations have emerged between the adoption of digital technologies and entrepreneurs, with the implementation of tools such as AI that directly influence companies' decision-making and operational processes. Additionally, the paper will examine the impact of cultural differences on the entrepreneurial landscape and their convergence with technological advancements. China is recognized as a global leader in utilizing data to stimulate innovation and guide business decisions. The study involves analysing 131 articles. Table 1 summarises the number of scientific documents extracted for our analysis.

Table 1. Number of scientific and practitioner documents

| Year | Articles | Year | Articles | Year | Articles | Year | Articles |
|------|----------|------|----------|------|----------|------|----------|
| 1988 | 1        | 1997 | 0        | 2006 | 0        | 2015 | 1        |
| 1989 | 0        | 1998 | 1        | 2007 | 0        | 2016 | 2        |
| 1990 | 0        | 1999 | 1        | 2008 | 0        | 2017 | 3        |
| 1991 | 0        | 2000 | 1        | 2009 | 0        | 2018 | 5        |
| 1992 | 0        | 2001 | 0        | 2010 | 1        | 2019 | 5        |
| 1993 | 0        | 2002 | 0        | 2011 | 1        | 2020 | 13       |
| 1994 | 0        | 2003 | 0        | 2012 | 0        | 2021 | 26       |
| 1995 | 0        | 2004 | 0        | 2013 | 0        | 2022 | 22       |
| 1996 | 1        | 2005 | 0        | 2014 | 6        | 2023 | 41       |

Source: Author's elaboration

### 3. RESULTS

Due to technological advancements and the global spread of internet connectivity, new forms of collective intelligence have emerged, using digital infrastructures to communicate, exchange resources, and coordinate activities. This social phenomenon, stemming from radical changes in information sharing, is redefining markets and offering new possibilities to enhance individual freedom and promote cultural diversity (Yam et al., 2023). Digitalization, Industry 4.0, Big Data, and blockchain technologies have profoundly transformed the entrepreneurial landscape, introducing new global perspectives and challenges for companies (Ali, 2023). As highlighted in figure 1, these technological innovations have profoundly influenced how companies manage their operations. The relationship between digitalisation and business management plays an important role in this rapidly

evolving context, as digitalization provides companies with new tools and methodologies to optimise their operations (Shadiev et al., 2023). Digital technologies are the outcome and environment of business creation and operational processes. Thus, it is possible to identify two integrated interpretations of the digital entrepreneurial ecosystem: the digital output ecosystem, which involves entrepreneurial actors in the conception, development, and provision of innovative digital products and services, and the digital environment ecosystem, which uses digital technologies as a tool to aggregate a broad network of stakeholders, facilitating the design and development process of startups and micro-enterprises (Truong, 2023).

Figure 1. Key themes and their relationship results of the analysis



Source: Author's elaboration using Leximancer

### 3.1 Artificial intelligence and entrepreneurs

Artificial intelligence (AI) is transforming the digital business system by introducing advanced tools that significantly influence business operations. To answer research question RQ1, the role of artificial intelligence (AI) in the digital entrepreneurial context will be analysed in this section. The figure below highlights how artificial intelligence (AI) influences the digital business environment, taking into consideration the competitive environment in which companies operate (Mondal S. et al. 2023). AI becomes important for companies looking to distinguish themselves from the competition, capable of anticipating market trends and adapting their strategies accordingly (Vinogradov E. et al., 2021). A fundamental aspect of AI usage is its ability to analyse large amounts of data in real-time and extract meaningful information to support strategic decision-making. Knowing customers allows companies to customise their products and services more effectively, adapting them to the market's specific needs and creating a competitive advantage (Gongmin B. et al. 2011). AI can also optimise business processes, identify inefficiencies, and suggest solutions to improve operational efficiency. For example, companies can reduce operating costs and increase overall productivity by automating repetitive tasks and creating intelligent decision support systems. In the entrepreneurial context, the



adoption of emerging technologies such as Artificial Intelligence (AI) has become essential to ensure competitiveness and innovation. This aspect is particularly relevant considering that resources are often limited, and operational efficiency can make the difference between the success and failure of a business (Abeba et al., 2020).

### **3.2 Digital platforms and management**

In addressing research question RQ2, the study examines how changes resulting from digitalization have transformed the entrepreneurial landscape. Digitalization has revolutionized the very nature of businesses, influencing business models, marketing strategies, and interactions with customers. This study aims to explore how the advent of digital technologies has redefined the very concept of entrepreneurship. Digitization has brought about a radical transformation in the entrepreneurial landscape. Digital platforms based on software have revolutionized the way demand and supply interact in real-time. The impact of digital technologies on entrepreneurship takes various forms (Kraus K. et al. 2022). An emerging concept in this context is digital entrepreneurship, also known as cyber-entrepreneurship, which involves the use of the Internet and technological platforms to conduct business operations and offer digital products and services (Swartz et al., 2022). This phenomenon represents a significant evolution of traditional entrepreneurship, as it enables access to global markets and the creation of new business opportunities through innovative use of digital resources (Chae & Goh, 2020). Digitalization provides companies with new tools and methodologies to optimise their operations. For example, implementing digital management systems allows for better process tracking and more efficient resource allocation, enabling companies to quickly adapt to changing market demands. Online platforms are playing an increasingly significant role in e-commerce and corporate communication. They act as business distribution channels, allowing them to reach a broad audience of consumers quickly and efficiently. In addition, these platforms offer an interactive environment that promotes customer engagement and feedback collection, enabling businesses to adapt and improve their products and services based on market needs (Slingerland et al., 2020). The digital market offers unprecedented data analysis opportunities and artificial intelligence (AI) applications to drive business decisions. Data analysis allows companies to identify market trends, consumer behaviour patterns, and growth opportunities, thus providing a solid foundation for targeted marketing strategies and informed operational decisions (Berman et al., 2023). At the same time, AI can automate complex processes, improve operational efficiency, and deliver personalised customer experiences.

### **3.3 Impact of cultural differences on global entrepreneurial strategies**

Responding to RQ3, the focus will be on the impact of cultural differences on the entrepreneurial world and their intersection with technological developments. In the analysis of the documents

considered, China stands out as a global leader in the use of data to drive innovation and support strategic business decisions. In fact, the Chinese digital ecosystem is characterised by technological platforms that dominate sectors such as e-commerce, digital payments, and social media (Liu X. et al., 2020). These platforms collect vast data on user behaviours, ranging from online purchasing habits and navigation patterns to social interactions and interests. This data is then used to personalise user experiences, enhance the accuracy of targeted advertising, and steer the development of new products and services. One sector where data utilisation has had a significant impact is cross-border e-commerce (CBEC). CBEC involves the online purchase of goods from retailers located in other countries or jurisdictions (Wang A. et al., 2023). Owing to the ever-growing process of globalisation and the ease of access to international markets via the Internet, CBEC has become a channel that fosters international trade. These platforms offer a wide selection of products worldwide and provide buyers with detailed information about products, user reviews, and international payment options (Xi et al., 2022). However, it is important to note that various cultural, social, and economic factors influence purchasing decisions in the CBEC. Individuals from different cultural backgrounds exhibit distinct cognitive processes and evaluate products based on different criteria (Erdogan G. et al., 2023). As a result, companies participating in CBEC must adapt their marketing and sales strategies to accommodate these cultural differences and ensure an optimal experience for their international customers (Yi, 2023).

#### **4. DISCUSSION AND IMPLICATIONS**

The evolution of IE has been significantly influenced by digitalization. The integration of emerging technologies such as AI, blockchain, and Industry 4.0 into IE not only facilitates the creation of innovative products and services but also enables a more dynamic approach to cross-border entrepreneurial activities (Elia et al., 2020). Digital platforms have facilitated significant transformations in the entrepreneurial sector by promoting an environment conducive to the rapid exchange of goods, services, and cultural values. This environment, heavily influenced by the pervasive nature of the Internet and globalization, has allowed for a form of collective intelligence that encourages cultural diversity while simultaneously improving business operations (Yam et al., 2023). Content analysis was performed using Leximancer software (Massaro et al., 2021). The resulting thematic map, depicted in figure 1, highlights key themes such as AI, digital platforms, and cultural differences. These themes are further explored in the subsequent sections, which provide details on their relevance.

#### **4.1. Implications #1. Impact of Artificial Intelligence**

The study showed how artificial intelligence is changing the business landscape worldwide, offering companies the opportunity to stand out from the competition. Artificial intelligence enables companies to completely change how they operate and position themselves in the market (Elia et al., 2020). This approach goes beyond simply adopting advanced technologies; it also requires developing skills and knowledge in AI. Through AI, companies can analyse vast amounts of data in real-time, leveraging cutting-edge technologies such as machine learning (Fossen & Sorgner, 2021). This ability to process data in real-time allows companies to obtain detailed insights into customer behaviours, preferences, and needs. By using this information, companies can customise their products and services in a targeted manner, thereby increasing customer satisfaction and loyalty (Liu X. et al. 2020). Globalization and access to international networks offer entrepreneurs opportunities for expansion and growth. These developments partially eliminate traditional barriers to business internationalisation, allowing them to overcome geographic boundaries and access new markets worldwide (Truong, 2023).

#### **4.2. Implications #2. Online Platforms for International Business Growth**

Digital entrepreneurship, also known as cyber-entrepreneurship, involves the use of the Internet and technological platforms to conduct business operations and offer digital products and services. This phenomenon represents a significant evolution of traditional entrepreneurship (Swartz et al., 2022). Online platforms enable companies to expand their global presence quickly and efficiently. Digital platforms offer new opportunities for companies to grow and diversify. Moreover, such tools enable them to market their products and services globally faster and more efficiently. Companies can leverage various digital channels and tools, including e-commerce, social media, and digital marketing, to connect with customers from all over the world. This can lead to increased profitability and competitiveness for businesses, allowing them to expand their customer base and diversify their revenue sources. Online platforms thus foster a more dynamic and competitive market environment in which companies can compete to meet consumer needs (Larios Hernández, 2019).

#### **4.3. Implications #3. Cultural Differences in e-Commerce**

The continuous evolution of internet technology and the advent of the big data era have positioned social media as an integral component of daily life. As economic globalization progresses, these technologies facilitate increased exposure to foreign cultures. Cross-cultural communication, an emerging form of interaction, leverages advertising as a vehicle for cultural and economic exchange, promoting the dissemination of national cultures and images. (Huang et al., 2022). The advertising industry in Thailand, renowned for its creativity on the international stage, effectively integrates

cultural and commercial values, serving as a potential model for China. China has demonstrated how data use can fuel innovation and drive business decisions. This underscores the importance of companies investing in data analytics capabilities to remain competitive in an increasingly digital market. Cross-border e-commerce (CBEC) offers significant opportunities for international trade, but it requires a thorough understanding of the cultural and social differences that influence purchasing decisions (Wang A et al., 2023).

## 5. CONTRIBUTION

In addition to making a significant contribution to the body of literature by filling in current gaps and paving the way for future research in the field of IE and digitisation this study aims to present a comprehensive framework that highlights the opportunities and challenges that arise from the dynamic interaction between entrepreneurship, technology, and intercultural dynamics (Elia et al., 2020). Our paper's uniqueness comes from its updated and comprehensive viewpoint on international entrepreneurship in the modern world. Technological innovation provides businesses with tools and opportunities to improve their operations, expand their market, and create value for customers (Karakas, 2023). Emerging technologies such as artificial intelligence, blockchain, big data, and the Internet of Things are revolutionising traditional business models, allowing companies to optimise processes, personalise products and services, anticipate market trends, and enhance customer experience (Hamburg et al., 2019). This study adopts an exploratory approach to analysing the interaction of these factors and their impact on the entrepreneurial environment. Adopting technologies such as AI and Big Data has opened up new opportunities for entrepreneurial innovation (Zhai Y. 2023). These technologies allow for the optimisation of operational processes, customisation of customer experience, and better anticipation of market trends (RQ1). Digitization has revolutionised business operations, enabling access to global markets and facilitating new business opportunities (RQ2). Cultural differences influence business strategies, especially when expanding internationally (RQ3). This study makes a significant contribution to international entrepreneurship (IE). Like other studies, this study has certain limitations. The first limitation concerns the database used for sample selection. Using only the Scopus database could be limiting from the viewpoint of selecting articles dealing with this research topic. Second, using keywords limited the search to studies already published in the literature. Additionally, because the authors employed an objective method for reviewing scientific production within the analysis, further developments and deepening of the topic could be beneficial.

## 6. CONCLUSION

The study analyses the intersection between international entrepreneurship, emerging technologies, and intercultural dynamics, highlighting how these components influence business strategies, technological innovation, and the management of intercultural relationships in an increasingly globalized and digitally interconnected context. Technologies such as artificial intelligence and blockchain are essential for transforming the entrepreneurial system, facilitating the digitalization of business processes, and improving management and communication across cultural and geographical boundaries, as highlighted by Elia et al., 2020. Despite progress, significant challenges persist, such as resistance to organizational change and linguistic and cultural barriers to technology acceptance, as evidenced by Cardinali et al., 2022. Future research could investigate how emerging technologies can be adapted to better respond to these diverse cultural contexts. Examining the effect of digitalization on small and medium-sized enterprises across various geographical regions and deepening the role of transcultural leadership in promoting technological innovation in multicultural companies. These research efforts can provide strategic directions for making the most of the potential of technologies in global and diverse contexts, focusing on more effective exploitation of the opportunities presented by globalization and digitalization in the entrepreneurial sphere.

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## ACCRUAL ACCOUNTING IN ITALIAN MUNICIPALITIES. OPPORTUNITIES AND PROBLEMS

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### ABSTRACT

The National Recovery and Resilience Plan (PNRR) is the plan approved in 2021 by Italy to relaunch its economy after the COVID-19 pandemic, focusing on ecological transition, digitalization, competitiveness, education, and social, territorial, and gender inclusion.

The NRRP's lines of action come with a strategy of reforms designed to boost the country's equity, efficiency and competitiveness. These reforms are an integral part of the plan as they are crucial for the implementation of the proposed actions. Three types of reforms are envisaged: horizontal reforms, enabling reforms, and sectoral reforms.

Among the enabling reforms, point 1.15 foresees "Equipping public administrations with a single accrual accounting system" in line with the path outlined at the international and European levels and in implementation of European Union Directive 2011/85. The goal of the reform is to achieve a single accounting system for the entire public sector, based on the accrual principle, which reduces inconsistencies between the different accounting systems of the administrations.

The current public accounting system, as defined by the accounting harmonization process initiated with Legislative Decree No. 118/2011, is based on financial accounting with the registration of management facts according to the simple entry accounting methodology, alongside economic-patrimonial accounting for informational purposes only.

This article aims to analyze the differences between the two accounting systems and the stages of this process by analyzing the opportunities and problems that Italian municipalities will face in introducing it.

*Keywords: Accrual Accounting System, Public Administrations, Pnrr, Accounting Standards*

### INTRODUCTION

The National Recovery and Resilience Plan (PNRR) envisages an integrated set of investments and reforms aimed at improving the equity, efficiency, and competitiveness of the country, fostering investment attraction, and enhancing the trust of citizens and businesses.



The Plan also includes some fundamental complementary reforms in the approved document, so that the public resources allocated in the program can quickly produce effects on the implementation of works and the procurement of goods and services, encountering as few regulatory, administrative, and bureaucratic barriers as possible. Focusing specifically on these, from reading the plan it is possible to distinguish between (National Recovery and Resilience Plan, Italy tomorrow, 2021):

- Horizontal reforms or "contextual" reforms of cross-cutting interest to all the Missions of the Plan, which should, according to the drafters of the plan, lead to improving equity, efficiency, and competitiveness and, with them, the country's economic climate: among these, the PNRR identifies the reform of Public Administration and the reform of justice;
- "Enabling" reforms that are functional to ensure the implementation of the plan and generally to remove administrative, regulatory, and procedural obstacles that condition economic activities and the quality of services provided, allowing to break down barriers to public and private investments,
- Sectoral reforms, consisting of regulatory innovations related to specific areas of intervention or economic activities and contained within the individual Missions.

Among the enabling reforms, Reform 1.15 envisages "providing public administrations with a single system of accrual economic and asset accounting", in line with the path outlined at international and European level for the definition of accounting principles and standards in public administrations (IPSAS/EPAS), and in implementation of Council Directive 2011/85/EU of the European Union.

This directive is part of the so-called six pack, namely the package of legislative proposals for the reform of European economic governance presented by the European Commission on 29 September 2010 and approved, finally, by the Council of the European Union on 8 November 2011.

In particular, Article 3 of the aforementioned European Directive 2011/85/EU requires Member States to establish accounting systems useful for generating data based on the accrual principle (economic competence) in order to prepare national accounting aggregates according to the rules of the SEC (System of Integrated European Accounts), verifying for this purpose the adequacy of the already codified international accounting standards for the public sector (IPSAS) and Article 12 emphasizes the importance for Member States to ensure uniformity of accounting rules and procedures, as well as the integrity of data collection and processing systems.

The planning of the implementing phases of Reform 1.15, summarized in Table 1, provides for:

- by the second quarter of 2024, the final approval of the conceptual framework, standards, general guidelines, and multidimensional chart of accounts, with a resolution of the Steering Committee (milestone 1);
- by the first quarter of 2026, completion of the first phase of training of personnel belonging to at least 90% of the identified public administrations (target);
- by the second quarter of the same year, the production of financial statements, compliant with the new accounting regulatory framework, for at least 90% of the identified public administrations (milestone 2).

**Table 1: Milestones and Targets for Mission 1.15 "Reform of the Public Accounting System"**

| Milestone & Target |                   |                         |   |
|--------------------|-------------------|-------------------------|---|
| Typology           | Sequential Number | Timeline (Quarter/year) | Description   |
| Milestone          | M1C1-108          | T2-2024                 | Approval of the conceptual framework, the set of accrual accounting principles, and the multidimensional chart of accounts.   |
| Target             | M1C1-117          | T1-2026                 | Training for public entities for the transition to the new accrual accounting system. Specifically, completion of the first training cycle for representatives of 18,000 public entities. |
| Milestone          | M1C1-118          | T2-2026                 | Implementation of the accrual accounting reform for at least 90 percent of the entire public sector.  |

*Source: "Implementation of the PNRR", Ministry of Economy and Finance, December 2021.*

## 1. THE PATH TOWARDS ACCRUAL ACCOUNTING

The Italian legislator implemented the obligation to harmonize the accounting systems of the PA already with Legislative Decree 118/2011.

Having homogeneous, aggregable, and comparable budget data, as processed with the same methodologies and criteria, is an essential need to address the pressing information requirements related to the planning, management, and reporting of public finance. More generally, it is a necessary condition to ensure access and clarity to anyone who wants to independently inform and understand how public finance is planned, managed, and controlled (<https://openbdap.rgs.mef.gov.it>).

With this decree, the Legislator aimed to redesign the structure and functioning of the accounting systems and budget schemes of the Regions, local authorities, and their bodies, implementing a reform process to achieve effective uniformity of budgets and financial statements and extend asset

accounting to all entities, thereby improving the overall quality of public accounts and positively contributing to the path of financial recovery at the local level.

The current accounting system in local authorities is based on a traditionally defined "financial" structure, which involves recording management events according to the simple-entry accounting methodology.

Financial accounting is a system for recording the financial values expressed by the revenues and expenses of a public entity. This system has the characteristic of recording these values both in their forecast determination and in their dynamics, and consequently in their final determination.

Financial (authoritative) accounting has the characteristic of being an accounting system that records the authorization aspects of management and the financial flows analyzed in the various components.

It is a tool for the predetermined allocation of resources, which is expressed through the approval of the budget by the deliberative body, a tool for authorizing the use of resources through the commitments/assessments mechanism. The public budget, prepared according to the criteria of financial accounting, expresses the values of revenues and expenses that are expected to occur during the following year, values that represent a legal-administrative constraint for the realization of revenues and expenses, both for the political body that approves the budget and for the administrative body responsible for managing it.

The limit of financial accounting is, therefore, that it does not record management events but only the use in financial terms of resources and therefore the entity's ability to meet the financial needs necessary to provide services. The simple recording does not allow judgments to be made about the substantive nature of operations, to evaluate therefore stocks, income depreciation, provisions for future expenses, and any temporal interdependence of processes (Borgonovi, 1996).

The aforementioned Legislative Decree 118/2011 provided in art. 2, for entities in financial accounting, the adoption of an integrated accounting system that guarantees the unitary recording of management events in their financial and economic-asset profiles. This system provides for economic-asset accounting to complement financial accounting, which constitutes the main and fundamental accounting system for authorizing and reporting the results of financial management with the aim of increasing the information content of their accounting documents, referring both to the income dynamics of management and to the evolution of the value of the assets (Grandis, Mattei, 2014; Grandis, Mattei, 2023).

## 2. OBJECTIVES AND PRINCIPLES OF ACCRUAL ACCOUNTING

The reform envisaged by the PNRR seeks to address the limitations of financial accounting and make the introduction of a single economic-asset accounting system throughout the PA effective, which provides for a unique set of general principles, in turn inspired by IPSAS (International Public Sector Accounting Standards) and EPSAS. (Manes Rossi and Caperchione, 2018).

Economic-asset accounting allows for the determination of the entity's assets and the measurement of changes that occur during the administrative period, determining the operating result, in addition to the financial measurement of recorded events.

It enables transparent communication to citizens about the resources acquired and their use in meeting public needs (Pezzani, 2005). Moreover, if the concept of expenditure (from financial accounting) is replaced by the concept of cost (from economic accounting), it has the advantage of quantifying the resources absorbed by various activities and thus knowing the real destination of the energies used (Fici, 2001).

The management of local authorities must have a substantial economic dimension, which concerns the level of technical productivity, cost-effectiveness, efficiency, and effectiveness of operations; which also considers the adequacy and consistency of the resources available to achieve the program objectives and institutional purposes of the entity (Mulazzani, 2002).

Full accrual accounting represents an accounting approach that records all revenues and expenses in the period in which they occur, regardless of the date of actual receipt or payment, allowing costs/expenses and revenues/income to be attributed to each period using the double-entry method.

## 3. IMPLEMENTATION OF THE REFORM

The Decree-Law of November 6, 2021, no. 152, "Urgent provisions for the implementation of the National Recovery and Resilience Plan and for the prevention of mafia infiltrations", converted with amendments by Law no. 233 of December 29, 2021, article 9, paragraph 14, provided that the activities related to the implementation of the accrual reform are carried out by the Governance Structure established at the Department of the General Accounting Office of the State with determination of the General Accountant of the State no. 35518 of March 5, 2020.

The governance structure is articulated in the following bodies: the Steering Committee with guiding and decision-making functions; the Standard Setter Board with a propositional function; the Internal Consultation Group of the General Accounting Office with an advisory function, and the Technical Secretariat with coordination and support functions.

*Fig. 1: the Governance Model*

| PHASE                 | GOVERNANCE STRUCTURE    |                            | EXTERNAL STAKEHOLDERS              |
|-----------------------|-------------------------|----------------------------|------------------------------------|
| Programming           | Steering Committee      |                            |                                    |
|                       | Technical Secretariat   |                            |                                    |
| Propositional         | Standard Setter Board   |                            |                                    |
|                       | Technical Secretariat   |                            |                                    |
| Internal consultation | Gruppo di Consultazione |                            |                                    |
|                       | Technical Secretariat   | Standard Board      Setter |                                    |
| Public consultation   | Steering Committee      |                            | Arconet Commission and Stakeholder |
|                       | Technical Secretariat   | Standard Board      Setter |                                    |
| Decision-making       | Steering Committee      |                            |                                    |

Source: Nota SeSD 116 del 2023\_La Struttura di governance. <https://accrual.rgs.mef.gov.it/>

The objectives and tasks of the Governance Structure are:

- a) Define a conceptual framework for the accounting system based on the accrual principle, according to the qualitative characteristics of accounting information defined within the Eurostat EPSAS Working Group;
- b) Define accrual accounting standards based on existing IPSAS and draft EPSAS, as well as new standards in matters relevant to national regulations not yet addressed at the European or international levels;
- c) Prepare general guidelines for the development of operational manuals functional to the application of the standards;
- d) Define a multidimensional chart of accounts, structured in levels, identifying only those that are necessary for the preparation of reporting useful for the consolidation of public accounts;
- e) Develop training programs for the transition to the new accrual accounting system, whose recipients will be identified by the Steering Committee;
- f) Define a gradual implementation process of the accrual-based accounting system for the public sector, according to the indications of the Steering Committee and in line with the path outlined at the European level;

g) Monitor the adaptation of the support information system to the new accrual-based accounting model;

h) Propose legislative measures for the adoption of all rules related to the new accrual-based accounting system.

With a view to future implementation of IPSAS in the public administrations of the European Union Member States, Eurostat commissioned a study to analyze the gap between the current accounting structure of public administrations and an accounting system based on European standards, in terms of accounting maturity. The following three tiers have been identified:

High accounting maturity: greater than or equal to 70%;

Medium accounting maturity: between 40% and 70%;

Low accounting maturity: less than 40%.

**Fig. 2: "maturity" in the application of the IPSAS based accrual accounting**

| Accounting maturity (AM)      | Central  | State            | Local   | Social Funds  |
|-------------------------------|--|------------------|---|---|
| HIGH<br>AM $\geq$ 70%         | Austria, Czech Republic, Denmark, Estonia, Finland, France, Latvia, Slovak Republic, Spain, Sweden, UK |                  | Belgium, Cyprus, Czech Republic, Estonia, Finland, France, Ireland, Latvia, Lithuania, Malta, Portugal, Slovak Republic, Sweden, UK | Czech Republic, Estonia, Finland, France, Lithuania, Netherlands, Portugal, Sweden    |
| MEDIUM<br>70% > AM $\geq$ 40% | Belgium, Bulgaria, Hungary, Ireland, Poland, Portugal, Romania, Slovenia                               | Belgium, Spain   | Bulgaria, Denmark, Germany, Hungary, Netherlands, Poland, Romania, Slovenia, Spain  | Austria, Belgium, Bulgaria, Croatia, Denmark, Hungary, Ireland, Latvia, Poland, Spain |
| LOW AM<br>< 40%               | Croatia, Cyprus, Germany, Greece, Italy, Luxembourg, Malta, Netherlands                                | Austria, Germany | Austria, Croatia, Greece, Italy, Luxembourg   | Cyprus, Germany, Greece, Italy, Luxembourg, Romania, Slovak Republic, Slovenia        |

Source: MEF Ragioneria Generale dello Stato, "IPSAS/EPAS Stato dell'arte" <https://www.rgs.mef.gov.it/>

Italy falls into the last tier, low accounting maturity. Therefore, the most suitable initiatives have been implemented to improve the level of accounting maturity and to adopt a unified accrual accounting system in Italian public administrations.

The process begins with the adoption of a first fundamental document (October 10, 2022) of the Conceptual Framework, which defines the principles of economic, asset, and financial reporting for

general informational purposes of public administrations. It represents the theoretical framework, or the conceptual reference structure, for the functionality of an economic-asset accounting system based on the accrual principle.

**Table 2: Conceptual Framework**

|  |   |
|--|---|
| Preface  | Object and functions of the conceptual framework  |
| 1. General purpose financial reporting                     | Financial statements for general purpose financial reporting<br>The financial statement<br>The objectives of financial reporting for general purpose financial reporting<br>Users of financial statements for general purpose financial reporting<br>Information needs of the primary users of financial statements for general purpose financial reporting<br>Information presented in financial statements for general purpose financial reporting<br>Public administrations preparing financial statements for general purpose financial reporting |
| 2. The postulates and constraints of information           | The postulates: definition and scope of application   |
| 3. The elements of the financial statement                 | Definition of an element<br>Liabilities<br>Equity<br>Income and revenues<br>Expenses and charges<br>Operating result<br>Recognition of elements in the financial statement<br>Removal of elements from the financial statement<br>Uncertainty in the measurability of an element  |
| 4. The valuation of assets and liabilities                 | The historical cost criterion applied to the valuation of assets<br>The valuation criteria of assets at current values<br>The historical cost criterion applied to the valuation of liabilities<br>The valuation criteria of liabilities at current values  |
| 5. The presentation of information in financial statements | Subject of presentation<br>Selection of information<br>Placement of information<br>Organization of information<br>Publicity of financial statements for general purpose financial reporting   |

*Source: Conceptual Framework - MEF - 10 October 2022*

Following this, there are the ITAS accounting standards, which are the applied accounting principles where the "applied accounting rules" are defined to which all entities must adhere in managing and representing business events. They are set in a perspective of consistency with the IPSAS international accounting standards and the European EPSAS ones.

The ITAS will be accompanied by general guidelines for the development of operational manuals with concise instructions for the application of the standards in the context of financial statement preparation, supplemented by illustrative examples for specific accounting entries.

The due process for the establishment of the Conceptual Framework and Standards (ITAS), as contained in the Regulation of the Governance Structure, stipulates that the proposals for establishment developed by the Standard Setter Board are subject, before final approval by the Steering Committee, to a phase of public consultation addressed to all stakeholders interested in the future implementation of the accounting reform, in order to gather any opinions and contributions.

The status of the approved ITAS is summarized in the following table.

**Table 3: ITAS Standards**

|           |  |                       |
|-----------|--|-----------------------|
| 1. ITAS 1 | Composition and formats of the financial statement   | Approved              |
| ITAS 2    | Accounting policies, changes in accounting estimates, correction of errors, and events occurring after the end of the reporting period | Approved              |
| ITAS 3    | 2. Foreign currency transactions, assets, and liabilities  | 3. Under consultation |
| ITAS 4    | 4. Tangible assets   | Approved              |
| ITAS 5    | 5. Intangible assets   | Approved              |
| ITAS 6    | 6. Service concession arrangements: grantor  | Under consultation    |
| ITAS 10   | 7. Inventory   | Approved              |
| ITAS 13   | 8. Funds, potential liabilities and potential assets   | Approved              |
| ITAS 15   | 9. Employee benefits   | Approved              |
| ITAS 16   | 10. Cash social benefits   | Approved              |
| ITAS 17   | 11. Accruals and deferred items  | Approved              |

Fonte: <https://accrual.rgs.mef.gov.it/> (consultato febbraio 2024)

Among the other elements planned for the implementation of the reform is the multidimensional chart of accounts, unified for all public administrations targeted by Measure 1.15 of the PNRR, approved on November 30, 2023, and will come into effect on January 1, 2025.

It is a hierarchical list of all accounting items used by the entity to record accounting transactions, allowing for a clear, complete, and consistent view across all PA structures and enabling detailed economic, asset, and financial analyses. It consists of a common base for all sectors of the PA and a different part among the various sectors, concerning levels of greater detail, aimed at better specifying their management needs.

It will not be a static document, but it will be constantly updated based on subsequent evaluations and revisions, aimed at improving its structure and functionality.

For the realization of such a design, there is also the implementation of a new information system to support public accounting processes, based on an ERP (Enterprise Resource Planning) architecture and structured in modules interconnected and integrated. This system will capture, through a single entry, the financial, economic, and asset analytical profile of the same managerial event.



The new system, called InIt, will be provided to Public Administrations by the Department of the General State Accounting Office (RGS) as a single integrated computer system to support accounting processes, replacing the numerous applications currently in use in central administrations. Additionally, the platform will be able to manage all processes of an organization (administrative, productive, and financial), enabling the integration of all functions of the organization and making information simultaneously available to all processes and actors involved.

#### **4. OPPORTUNITIES AND CHALLENGES**

The introduction of the accrual-based economic and asset accounting system will serve as the foundation for implementing an analytical system for accounting and performance evaluation, aiming to enhance the reliability of data available to operational center managers. This initiative contributes to improving process management and control, reporting, and evaluation phases, with consequent positive impacts on optimizing the organizational structure.

Moreover, its introduction will lead to the creation of a more comprehensive and precise information base, aimed at optimizing data production for national accounting, increasing effectiveness in meeting the transparency and accountability needs of public administrations, strengthening asset-oriented perspectives, and improving internal management processes, with particular attention to cost and efficiency profiles.

In its practical application, considering the complexity and repercussions of the change, it is important to emphasize that there will be numerous organizational, IT, and training-related challenges associated with its implementation in local authorities.

The real challenge for local authorities will be to prepare for the upcoming experimentation phase starting in the fourth quarter of 2024, involving a representative sample of public administrations.

A cultural shift will be necessary, involving not only employees but also administrators. It would be a mistake to assume that only accounting sector employees should undergo training; it should be extended to employees in all sectors due to the necessary implications.

Therefore, institutional training available on the website of the General State Accounting Office (<https://accrual.rgs.mef.gov.it/it>) will certainly not be sufficient, and each entity will need an effective training plan.

In addition to being considered an obligation, the transition to accrual accounting should represent an opportunity for operators and budget data users to have better quality economic, financial, and asset data that truly support analytical accounting and management control.

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# INTEGRATED PLAN OF ACTIVITIES AND ORGANIZATION (PIAO) AND PUBLIC VALUE, A SYNERGY WITH DIFFERENT INTERPRETATIONS

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## ABSTRACT

Italy is undergoing a series of reforms, aimed at improving the country's economic and social situation. These reforms are being encouraged by the National Recovery and Resilience Plan (NRRP), which is part of the Next Generation EU program. By implementing the NRRP, Italy hopes to create a more sustainable and resilient economy that will benefit both its citizens and the wider European community. As part of the NRRP, the Integrated Plan of Activities and Organization (PIAO) has been introduced as a key reform. This planning tool aims to replace the function-specific planning documents that were introduced gradually through previous reforms over the last few decades. The PIAO is a futuristic development that is designed to guide the government's administrative actions towards creating public value. By adopting a holistic approach that considers all of the relevant dimensions, organizations can ensure that they are delivering value in a way that is both effective and sustainable. The purpose of this paper is to explore the concept of public value and how it is promoted by public administrations. The study will use a content analysis approach to examine the different sections across the Italian state that discuss the definition of public value and the methods for maximizing it. By analyzing these strategies, the study will identify similarities and differences in the understanding of public value across the various regions of Italy. The findings of this analysis will provide valuable insights for developing new planning tools in the future.

*Keywords: PIAO, Integrated Plan of Activities and Organization, Public value, Integrated planning*

## INTRODUCTION

Over the last two decades, research on Public Value (PV) in Public Administration and Management has gained immense attention and now plays a crucial role in academic and managerial debates concerning the production of public services (Van Der Wal et al., 2015; Osborne et al., 2016; Alford et al., 2017), becoming an essential construct in the present research on public administration (Esposito & Ricci, 2015). Those studies examined how public value is created and achieved in the

public sphere, focusing more broadly on its relationship to value creation and public values (Williams & Shearer, 2011; Van der Wal et al., 2015). PV theory has emerged as a distinct paradigm from new public management (NPM) and public governance (PG), redefining the role of public managers (Bryson et al., 2014; O'Flynn, 2007; Stoker, 2006). While traditional public administration prioritized efficiency and new public management focused on efficiency and effectiveness, the emerging approach pursues, debates, challenges, and evaluates values beyond these two (Bryson et al., 2015). Due to increased interest from various fields, the concept of PV (public value) has evolved into different interpretations. These include PV as an approach for public managers known as the "Strategic Triangle" (Moore, 1995), which is focused on actors as a means of contributing to the public sphere (Benington, 2009) and, more recently, as an addition to societal outcomes (Alford & Yates, 2014; Hartley et al., 2017). Despite the numerous efforts to understand PV and its theories, the subject still needs to be clarified. The current predicament could be attributed to the need for more thorough and meticulous empirical research that delves deeper into comprehending the PV phenomenon. Such research is necessary for progress towards gaining valuable insights, essential for developing new theories and fostering a better understanding of the subject matter (Guthrie et al., 2014; Hartley et al., 2017). At the same time, there is an ongoing discussion about the importance of public services that are efficient, effective, and able to meet the diverse social needs of the population (Fosti et al., 2019). In order to effectively evaluate the value of an administration, it is essential to consider various factors that contribute to users' overall satisfaction with the service. These factors include the impact of the service on users' well-being and the extent to which it meets their specific social, health, or economic needs. By taking into account these important considerations, it becomes possible to assess the effectiveness of a given administration more accurately in meeting the needs of its users (Osborne et al., 2016). Defining and redefining public value is dynamic and constructive, involving a continuous exchange of ideas and perspectives between politicians, government officials, and community members. This interaction occurs within a social and political context and helps shape the values and priorities that guide government decision-making and public policy. Through this ongoing dialogue, public value is constantly evolving and refined to better serve society's needs and aspirations (Smith, 2004). Exploring the concept of value can aid public managers, government officials, and individuals involved in all areas to contemplate the type of society they aspire to create (Bozeman, 2007). By prioritizing public value, communities, service providers, and political leaders can gain valuable insights and perspectives to explore a broader range of questions and build on recent experiences. While the concept of public value can be complex and debated, embracing it enables governments and citizens to re-examine government actions that are meaningful to them and move forward with new agendas that reflect their needs and aspirations. In essence, focusing on public value is a powerful

way to foster greater collaboration, innovation, and engagement among stakeholders and to ensure that government actions are aligned with the needs and priorities of the public (Smith, 2004).

The recent COVID-19 pandemic has highlighted the significance of having reliable and trustworthy institutions and public services that are equipped with sufficient resources to address the needs of the people as the crisis rapidly evolved from a health emergency to an economic and social one (Gagliardo & Saporito, 2021). As a result, the concept of Public Value is still under debate, which presents an opportunity for further exploration and refinement that could lead to a better understanding of its practical implications and enhance its application in the public field.

## **THE INTEGRATED PLAN OF ACTIVITIES AND ORGANIZATION (PIAO)**

The Italian government has recently initiated a fresh wave of reforms to revive the economy and build a stronger future. Under the Next Generation EU program, the National Recovery and Resilience Plan (NRRP) has incentivized and supported these reforms. The NRRP aims to provide Italy with the financial resources to overcome the economic challenges posed by the COVID-19 pandemic and make strategic investments in various sectors to drive growth and sustainability. The Plan is based on a vision advocated in various doctrines (Costantino, 2016; Marzano & Ciabatti, 2020; Siccardi, 2022) and by international organizations such as the Intergovernmental Working Group (IRG) of the United Nations and the Working Group on Bribery (WGB) of the OECD. According to this vision, simplifying regulatory and administrative processes is crucial to preventing corruption arising from the system's complexities. One of the main reforms introduced in the early stages of the NRRP is the Integrated Plan of Activities and Organization (PIAO), Legislative Decree n. 80/2021. At the strategic level, the PIAO has to be interpreted as a recap of change' that will enable constant and accurate monitoring of the administrative transition process initiated with the NRRP. Public administrations must prepare this document with more than 50 employees. This single organizational document will last for three years and be updated annually. It incorporates the contents of various plans currently required for administrations.

This new planning tool is designed to replace a list of function-specific planning documents introduced gradually through previous reforms over the last few decades to combine multiple plans and fulfillments into one document. Therefore, the PIAO's aim is "*filling the structural strategy deficit typical of the plethora of planning instruments, trying to give an organic and integrated sense of direction*" (Saporito, 2022). The great innovation for Italy brought about by the Integrated Plan is precisely its projection towards creating public value, and each section that constitutes it is oriented towards it becoming the ultimate goal of an administration. Indeed, it integrates and qualifies the planning tools by orienting them toward the creation of Public Value (Gagliardo & Saporito, 2021)

from the perspective of equitable well-being and sustainable development (Gherardi et al., 2021; Gagliardo, 2021). It has a solid communicative purpose, through which the public body communicates to the community the objectives and actions through which public functions are exercised, and the results to be achieved concerning the public value must be satisfied. This approach aims to enhance the public's benefits from the government's actions and decisions. It can be considered as a planning tool mainly aimed at integrating and qualifying instruments and orienting them towards creating public value as a response to the values emerging from the analysis of the context and stakeholders (Gagliardo & Saporito, 2021). In particular, integration "*should be sought horizontally between organizational units accustomed to planning in silos and vertically between objectives of operational performance, risk management and organizational improvement and the strengthening of professional skills, directed towards creating public value*" (Gagliardo & Cepiku, 2023). In fact, the Integrated Plan of Activities and Organization includes a specific section discussing Public Value, Performance, and Anti-Corruption. The subsection Public Value defines the objectives of Public Value deriving from administrative action and, more specifically, the increase in economic, social, educational, welfare, and environmental well-being in favor of citizens and businesses (reference is made to the Sustainable Development Goals of the UN 2030 Agenda and the Equitable and Sustainable Well-being indicators developed by ISTAT and CNEL).

With the PIAO, performance becomes the lever for creating public value, and the corruption prevention discipline is the lever for protecting it. The novelty of the themes introduced, the Plan's focus on public value, and the limited number of accounting papers have led to the desire to investigate analogies and differences in the interpretation and conception of public value through the following research, with a focus on the work of the Italian regions. The work aims to answer the following research question: How do Italian regions interpret the public value mission described in the PIAO by choosing to prioritize some goals over others to generate it, and what issues do they neglect in value creation?

## **PUBLIC VALUE: THEORETICAL OUTLINES**

To better understand the implications of the instrument and the novelty of introducing public value as a goal for the government to achieve, it is important to survey its interpretive evolutions over time to its dimension within the PIAO. Mark Moore's book *Creating Public Value* in 1995 gave birth to Public Value Management and Measurement (PVMM). The document includes the most widely recognized Public Value paradigm, the Strategic Triangle. This framework suggests that a strategy must accomplish three things: create Public Value, receive legitimacy from politicians and stakeholders, and be achievable through internal and external resources. According to Moore, value creation passes

through five levels: improved quality and quantity of services, reduced legitimization and financial costs, better comprehension of needs, increased equity in the public sector, and enhanced innovation capabilities (Moore, 1995, p. 211). Moore introduces the essential elements of "*Creating public value*". According to the author, the strategy of value pursuit should be followed, which involves creating something valuable, gaining political legitimacy from the authoritative environment, and putting it into practice (Moore, 1995, p. 71). The concept of public value is complex and has many dimensions, making it appear like a constantly changing pattern when viewed from different angles. The PV concept appears multidimensional and kaleidoscopic (Deidda Gagliardo, 2002). For this reason, various definitions have been proposed in the literature over time. PV has been considered to be the value created by services, rules, laws, and other government actions (Kelly et al., 2002). A long-term perspective has to be taken into account while defining PV. If the current and prospective requirements of the target community can be satisfied, PV will be established (Deidda Gagliardo, 2002, p.185). Creating public value is achieved by satisfying citizens' needs without compromising the financial balances of public administrations, ensuring the creation of PVs in the future. PV is also considered regarding citizens' preferences expressed in direct deliberations or political representation processes (Alford, 2002, pp. 338-339). Smith points out that PV continuously evolves through socio-political interactions (Smith, 2004, p. 68) between citizen representatives and key stakeholders, defining what constitutes PV (Stoker, 2006, p. 42). According to O'Flynn, PV is a multidimensional construct reflecting citizens' collectively expressed and politically mediated preferences. It consists of the outcome and guaranteeing justice and fairness (O'Flynn, 2007, p. 358). Confirming this thought, Talbot states that PV is simultaneously formed by individual, collective, and procedural interests (Talbot, 2011, p. 30). Spano identifies the production of value as that process capable of determining the generation of benefits in favor of the community, compensated by the corresponding sustaining of sacrifices: PV is obtained when the former exceeds the latter (Spano, 2009). Horner and Hutton (2011) propose what can be called an evolution of Moore's triangle, the Public Value Dynamic (Horner & Hutton, 2011). The paradigm consists of three dimensions: Authorisation, which contains the concept of PV, the methods of consultation and feedback to stakeholders, the processes of accountability and legitimization of the 'vision of value at the authorizing environment (Deidda Gagliardo, 2015, p.56 ). In particular, Public Value Creation defines the ways through which public value can be created; Measurement defines the standards and methods of measurement for "achieving an absolute summary measure of PV" and the adequacy of "managerial performance measurement frameworks" (Deidda Gagliardo, 2015, p.56), verifying whether the latter can capture the needs of the citizenry and whether and how the latter has been an integral part of the consultation processes (Horner & Hutton, 2011). Based on these contributions, several interpretations of the concept of Public Value and how it



manifests within public administration were developed. These will be reported below and will help as a theoretical basis for the concept of Public Value as it is understood in the paper's framework. The creation of Public Value is the institutional mission of the PA (Guidelines 1/2017; Deidda Gagliardo, 2015; Deidda Gagliardo & Saporito, 2021). By public value, in a strict sense, the DFP Guidelines 1/2017 refers to the overall economic, social, environmental, and/or health well-being of citizens created by an entity for its public, compared to a baseline. *Public value* can be defined as the overall economic, social, environmental, and health well-being of stakeholders created by public administrations. Benington and Moore define PV as the sum of individual values and the long-term public interest, including the needs of generations to come (Benington & Moore, 2011). Therefore, the role of PAs is fundamental in supporting and creating PV. Conversely, Talbot defines PV as one extensive system in which public, private, and procedural interests coexist (Talbot, 2011). The private interest concerns the demand of each citizen about the satisfaction of needs with the help of public services at a balanced price; the public interest is manifested instead in the attention to the social results of public services; the procedural interest is delineated in need for fairness, correctness, and transparency of decision-making processes, including active citizen participation in the evaluation of PA decisions. These definitions can be considered "limited" in that they do not include a global vision of the concept but concern a sporadic PV production that cannot be reproduced over time; community expectations and the needs of all categories of potential stakeholders are not considered (Deidda Gagliardo, 2002). The community, specifically the central role of the citizen, must play a fundamental role in the definition and creation of Public Value. Deidda Gagliardo (2015, p. IX) would later define public value as "the balanced and balancing satisfaction of the final needs of the community of reference and the functional needs" of public administrations. Politics, in particular, is the social medium through which citizens express and define what Public Value means by manifesting their preferences (Alford, 2002; Stocker, 2006; O'Flynn, 2007). Collective decisions align with outcomes from political interactions in which citizens and representatives negotiate to fulfill needs (Deidda Gagliardo, 2015, p.59). In summary, PV refers to enhancing a governed society's social welfare, pursued by an entity capable of economic development by utilizing the rediscovery of its genuine heritage, that is, its intangible values. For instance, the factors that contribute to the success of an organization are its capacity to organize, the skills of its employees, the network of internal and external relations, the ability to understand the surroundings and take appropriate actions, the constant pursuit of innovation, the consideration of environmental sustainability in decision-making, and the mitigation of the risk of losing value proposition due to opaque or corrupt practices (Gobbo et al., 2016). In recent years, the concept of public value has been increasingly debated in the academic literature on public policy, administration, and management (O'Flynn, 2021). An entity creates public value by caring for the

health of resources by involving and motivating managers and employees. It functionally improves efficiency and effectiveness performance to improve impacts, which can also be measured through BES and SDGs. From this point of view, creating public value involves planning specific operational goals with quantitative and qualitative performance indicators related to effectiveness, economic-financial, managerial, productive, and time efficiency. In addition, operational objectives that cut across various areas, such as simplification, digitalization, full accessibility, equal opportunities, and gender balance, are crucial for the strategies aimed at creating public value (Deidda Gagliardo & Saporito, 2021). Under the new vision presented by the PIAO, each administration needs to consider what its Public Value is and what strategies it could employ to create it (Deidda Gagliardo & Saporito, 2021).

## METHODS

Document analysis is a systematic procedure used for reviewing or evaluating both printed and electronic documents. Like other analytical methods in qualitative research, document analysis requires the examination and interpretation of data to elicit meaning, gain understanding, and develop empirical knowledge (Corbin & Strauss, 2008). The government website 'Civil Service Department' and, in particular, the specific section 'PIAO Portal' were used for the analysis. The name of each Italian region was then entered in the search criteria section 'select an administration.' This entry allowed the portal to link the indicated region to the relevant IPA code. For the Italian regions (except for Umbria), the PIAO 2022-2024 and the PIAO 2023-2025 and its annexes were available. All regional PIAOs for 2023-2025 were downloaded for this research. Any attachments were not taken into account. From the section entitled 'Public value, performance, and anti-corruption,' the paragraphs on public value and its measurement were isolated. The texts were in Italian. To discern the varying levels of specificity with which public value had been addressed across different PIAOs, the lead researcher undertook a meticulous reading of the relevant pages. During this process, the researcher carefully read through each page, highlighting and identifying significant keywords and phrases relating to "*public value*". The highlighted responses were reread to identify any repetitions, similarities, and differences. Then, a manual content analysis was used to organize information into significant themes (Torelli et al., 2020). The analysis was carried out individually by the two authors and cross-checked at the end. Each theme identified was correlated with the number of objectives related to it in each regional plan. For practical reasons, the primary impact category was chosen. In this way, it was possible to see how a region: (1) interprets public value; (2) chooses to prefer some objectives over others to generate public value, and (3) what issues it overlooks in the creation of value. All the activities were carried out with the agreement of both authors.

## RESULTS

The analysis of the public value sections of the documents allowed the selection of the following recurring themes connected to public value. "Institutional and political well-being" refers to administrative processes' improvement and increased efficiency. This theme includes simplification and digitalization of interactions with stakeholders. Stimulating citizen participation in decision-making processes and implementing policies for better budget management are also important. The goal is to improve the quality of relations between the governing entity and its stakeholders. "Social welfare" refers to policies that aim to improve social and healthcare services for individuals, especially those with disabilities and pathological dependencies. Such policies include but are not limited to extending social and educational services for children, improving emergency social intervention services, fighting poverty through social protection policies, and reducing discrimination, inequality, and illegality. Additionally, policies are being developed to help individuals reconcile lifetimes and extend their lives. "Health welfare": Policies aimed at improving health services by increasing digitalization, participation in prevention activities, improving response times to health needs, and treating chronically ill patients. "Educational well-being": policies to support education and the right to study. "Economic well-being": policies aimed at strengthening economic growth, increasing employment, regional tourism, and competitiveness while supporting the green economy and sustainable development. "Cultural well-being": policies to support the valorization and management of cultural heritage by guaranteeing and increasing use and improving the quality of performances and services (such as museums and libraries). Additionally, policies that encourage participation in sports, particularly among young people. "Environmental well-being" refers to policies that improve waste management, air and soil quality, and promote renewable energy sources. It also includes efforts to remediate contaminated areas, improve public transportation services and infrastructure, combat housing hardship, and provide reconstruction guarantees for areas affected by natural disasters. Additionally, these policies aim to reduce marginalization in certain areas, preserve biodiversity, and minimize hydrogeological instability. Where well-being can be associated with multiple impact dimensions, Public Value should be measured in terms of overall well-being or balance between impacts, a dynamic that is still complex. It is important to note that the well-being type linked with the strategic goals identified follows the most significant impact, even though the same goal may have more than one effect. We analyzed each region's strategic objectives and the objectives associated with the identified themes for the 2022-2024 interval, respectively. Upon evaluating the data that shows the total number of strategic objectives, it is evident that each region has distinct numbers. For instance, the Friuli Venezia-Giulia region has 98 strategic objectives, while the Calabria region has only eight strategic objectives. The strategic objectives outline a course of

action that guides the implementation of operational objectives. However, some projects may focus on improving areas of well-being that are outside the strategic objectives, as seen in the case of the regions of Tuscany or Veneto. This trend does not imply the insignificance of the object of analysis. However, it does imply awareness of the influence of other variables in defining what it means to create Public Value. Abruzzo, Calabria, Friuli Venezia-Giulia, Lazio, and Trentino Alto-Adige are the regions that prioritize institutional well-being. Umbria has the most strategic objectives aimed at creating educational well-being. Marche, Piedmont, and Valle d'Aosta are ranked highest for Economic Well-being, while Basilicata, Campania, Liguria, Lombardy, Puglia, Sardinia, Sicily, Tuscany, and Veneto are ranked highest for Environmental Well-being. It has been noted that health, cultural, and social welfare are not the primary strategic priorities for any region. However, the Friuli Venezia-Giulia Region stands out as being more homogeneous in its distribution of strategic objectives among these areas. This peculiarity makes it the region with the most significant social, environmental, economic, institutional, educational, and cultural impact. In other words, the region has balanced priorities, contributing to its overall well-being. Promoting health and well-being has not been a primary focus for any region, especially after experiencing a pandemic that greatly affected the organization and management of general healthcare systems. The same can be said of social welfare, the creation or improvement of which is indispensable, especially about immigration, greater inclusion, and assistance for people with disabilities. Finally, let us identify which Regions reported the most objectives based on the type of well-being created. Lombardy and Friuli Venezia-Giulia have the same number of objectives for Institutional well-being. Liguria has the highest number of social and welfare well-being objectives, while Sicily has the highest objectives for health and well-being. Umbria has the highest number of objectives for Educational well-being, and Sardinia has the highest number for Economic well-being. Friuli Venezia-Giulia has the highest number of objectives for Cultural well-being, and Lombardy has the highest objectives for Environmental well-being. The operations were repeated for all plans for the period 2023-2025 to complete the analysis. Unlike the other regions, Valle d'Aosta has oriented almost all its objectives towards improving the region's environmental conditions by investing in dams and reclamation. Basilicata also has a solid environmental orientation with numerous interventions aimed at redevelopment. Unlike Valle d'Aosta, however, this region has also oriented most of its interventions towards other objectives that can be included in the themes of economy and cultural well-being. Together with Basilicata, the only region that refers to objectives that cover all the topics considered in the updated PIAO is Friuli Venezia Giulia, which has also decided to employ the most resources in interventions to implement the regional economy and safeguard the environment. Toscana (the region with the least space dedicated within the PIAO to the definition of public value) sets out in a very detailed manner the

objectives to be achieved, which are evenly distributed across the various sectors of interest. This region also has dedicated the most space within its objectives to socio-welfare interventions aimed at the protection of civil and social rights and to the enhancement of issues related to research and the university. Similarly, Lombardia, in addition to focusing on economics and institutional purposes, devotes ample space to training young people and promoting the university system. However, like almost all Italian regions, this region completely neglects health and welfare. As seen from the tables above, this topic is addressed by several regions but with few objectives. Only Sicilia, Lombardia, and Lazio have dedicated a conspicuous part of their regional objectives to strengthening hospital services. The theme of promoting culture is also outlined in a few objectives, except in two regions: Veneto and Sicilia. Like the Liguria region, the Sicilia region seems to maintain the national trend, also devoting special attention to the circular economy, economic transition, and economic development. In addition to maintaining the focus on economic, environmental, and cultural aspects, the Sardegna region is the one that devotes the most attention, along with Latium, Lombardy, Campania, and Veneto, to the institutional/political theme, with a series of policies aimed at simplifying processes and accessibility. In contrast to these regions, Piedmont has no objectives falling under the institutional theme since the region orients almost all its objectives to pursuing sustainable development. Puglia, on the other hand, concerning the guiding policies of regional action described in the piao (focusing mainly on inclusion, sustainability, and health improvement), has focused its updated plan on institutional/political and economic themes. The Calabria region shows a renewed interest in operations to improve employability and improve environmental, energy, and operational standards. Abruzzo and Emilia devote little space within the PIAOs to the issue of public value, analyzing the issues residually. Significant changes from one plan to the next may be due to more than the complete achievement of the set objectives. It may also depend on organizational and management changes. All the above considerations should be read from a different perspective than merely numerical results since the data reported undoubtedly derives from the regional context and must, therefore, be considered in order to be correctly interpreted.

## DISCUSSION

The PIAO has introduced a groundbreaking and futuristic approach to ensuring that the government's administrative actions are directed toward creating public value. An element of discontinuity with the past is highlighted for Italy: the need to "direct change to public value", that is, to the concrete realization of objectives that improve the quality of life of citizens or users who are recipients of the activities of the Public Administration. Given the differences and disparities between regions, applying this new programming uniformly at a national level looks complex. It seems clear

that one of the main drivers for reading the dissimilarity of the submitted plans and their different characteristics may lie in the different interpretations each region has given to the concept of public value. This can be seen both from the space devoted to it in the plans and from the different structuring of individual goals. This inhomogeneity underlines the importance of presenting the concept of public value clearly and consistently, eliminating shades of abstractness (Wirtz et al., 2023). Moreover, in the profound restructuring of the political, economic, and social context, various stakeholders may express divergent values, interests, and ideologies. To achieve tangible progress, it is paramount to collectively agree on the essential actions to prioritize to archive public value (Benington & Hartley, 2019) at a national level. The data collected showed that the northern regions performed commendably, developing more objectives than the rest of the peninsula. The comparison can help confirm the widespread disadvantage of the South in socio-economic areas. Apart from a few isolated exceptions, most regions distribute their objectives evenly across the highlighted topics. In the literature, it has been concluded that the best perspective, as a more significant amount of public value is created about the quality of the trade-off between different impacts when strategies are put in place that can produce improved impacts on the dimensions of community well-being, is a weighted balance or trade-off between different impacts (impact of impacts) of the socio-occupational, economic, environmental and health dimensions (Deidda Gagliardo & Saporito, 2021). The data show that the goals of the Italian regions primarily revolve around economic, environmental, and institutional issues. These three dimensions seem to be the fields through which Italian regions believe they can generate the most public value. The 'big absentees' remain the objectives dedicated to improving public health. In particular, in the first version of the PIAO, issues related to health and well-being appear among the main objectives for only three regions: Marche, Piedmont, and Trentino Alto Adige. In the second attempt of the document, it was noted that promoting health and well-being has not been a primary focus for any region. These dynamics were not expected after experiencing a pandemic that greatly affected the organization and management of general healthcare systems. Even though the World Health Organisation (WHO) has declared the end of COVID-19 as a public health emergency, other factors related to the aging population and the consequent increase in chronic diseases persist and worsen, requiring a more focused orientation towards improving national healthcare and related investments (19th Health Report of the Centre for Applied Economic Research in Health C.R.E.A.). The same can be said of social welfare, the improvement of which is indispensable in the Italian contest, especially regarding gender equality, childcare, and care of the frail elderly, as well as the management of continuous migration flows (Naldini & Saraceno, 2008)

In this sense, it is evident that in early versions of the PIAO, regions were not able to balance impact perspectives as should instead be done by recalibrating actions dynamically according to

different contexts and periods to maximize public value (Deidda Gagliardo & Saporito, 2021). Despite significant challenges, the Italian regions have first attempted to create a 'culture of public value' that effectively drives change and improvement. This culture emphasizes the importance of public services and their impact on the well-being of individuals and communities, which should significantly improve our country over time. The comparative evaluation of the ministries' PIAO development processes in the 2022-2024 and 2023-2025 cycles attests to most administrations' ongoing learning process. However, further studies are to be pursued to investigate the developments of the impacts generated by the objectives chosen by each region in the actual implementation of PV.

## CONCLUSION

This study aims to conduct an in-depth analysis of the various dimensions of public value encompassed in the Plans of Activities and Organization for each Italian region except Molise. The study identifies the key factors contributing to creating and delivering public value by examining each region's strategic plans. An in-depth analysis of the Italian regions discovered that public value can be observed and experienced through various dimensions. The dimensions identified include institutional, political, economic, socio-welfare, health, educational, cultural, and environmental themes. Each theme represents a different aspect of public value that contributes to the overall well-being and prosperity of the region's inhabitants. By carefully considering and implementing strategies that address these themes, the regions can ensure the delivery of high-quality public services and create an environment that fosters growth and development. By associating the number of objectives for value creation with the identified themes, it was possible to see how a region interprets public value through the dimensions of well-being, chooses to prefer some objectives over others to generate public value, and what issues it overlooks in creating value. Upon conducting a thorough analysis, we have discovered significant variations in how different regions address the Public Value subsection. By analyzing the multi-dimensional aspects of public value, the study provided insights into the areas where each region focuses and can improve its policies and practices to serve its citizens better. This regional dynamics outline may help understand specific needs and guide future national interventions. The study's limitations concern the fact that it is mainly based on documentary analysis and analyzes very dissimilar plans. In the future, it might be helpful to strengthen these results through interviews with some of the actors involved and to compare the analysis with future PIAOs to be published to chart new developments.

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## PAST TRENDS AND FUTURE DIRECTIONS IN GREEN HUMAN RESOURCE MANAGEMENT RESEARCH: A BIBLIOMETRIC ANALYSIS

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### ABSTRACT

This research offers a comprehensive overview of green human resources management literature highlighting the major themes in the current developments along with the new trends and patterns for future research observed in this field. For conducting a systematic literature review and bibliometric analysis, following the PRISMA 2020 Protocol, 684 published articles from 2010 to 2024 from the Scopus database were included for final analysis. VOSviewer software was used for extracted data analysis and visualization. Performance analysis and science mapping (citation, co-citation, bibliographical coupling, and keyword co-occurrence analysis) were performed. The study reveals the current status in GHRM publications and citations, identifying key contributors such as influential countries, journals, and authors and outlines theories, keywords, and thematic areas. Lastly, this study identifies research gaps and emerging trends in GHRM, offering valuable insights for scholars and practitioners seeking to advance understanding and implementation of green HR practices.

*Keywords: Green Human Resources Management; Systematic Literature Review; Bibliometric Analysis; Science Mapping; Performance Analysis; Scopus.*

### INTRODUCTION

With increasing societal pressures on organisations to adopt environmental responsibility and manage their environmental footprint, and with the need for organisations to remain competitive (Tang *et al.*, 2018), there is a growing need to integrate environmental sustainability into organisational and human resource management (Jabbour and de Sousa Jabbour, 2016; Deshwal, 2015). Green human resources management (GHRM) is becoming a strategic function of the organisation that can contribute to the successful design and implementation of environmental management and ensures the implementation of environmental practices in the organisation (Jabbour and de Sousa Jabbour, 2016), to achieve environmental sustainability (Ramasamy, 2017; Ansari *et al.*, 2021; Marrucci *et al.*, 2023). GHRM enables organisations to attract, select, recruit environmentally conscious employees, train and develop employees' environmental knowledge and competencies, change environmentally unfriendly behaviours, implement environmental performance in the organisation and reward employees for it

(Deshwal, 2015; Jabbour and de Sousa Jabbour, 2016). GHRM provides greater efficiency, reduces costs and helps the organisation to operate in an environmentally friendly and sustainable manner (Hosain *et al.*, 2016).

The significance of green human resources management en is increasingly recognized and has received growing attention from scholars, however, a need to systematically review and synthesize the literature in this field remains.

This research offers a comprehensive overview of green human resources management literature highlighting the major themes in the current developments along with the new trends and patterns for future research observed in this field.

**This study aims** to examine GHRM knowledge has been constructed, disseminated, and shaped over time and make suggestions for future research. The following **research questions** were raised:

RQ 1: What are the current status and trends of publications and citations in the GHRM literature?

RQ 2: Which countries, journals and authors have contributed the most to the GHRM literature?

RQ 3: What are the most frequently used theories, keywords and thematic areas in the literature?

RQ4: What are emerging trends and research gaps that will shape the future GHRM research?

## THEORETICAL BACKGROUND

Green human resource management helps to understand the links between organisational activities that impact the natural environment and the design, implementation, and impact of human resources management (HRM) systems (Renwick *et al.*, 2013). In this view, GHRM supports an organisation's sustainability strategy by adapting HRM strategies and practices to achieve financial, social, and environmental objectives, impacting both internally and externally in the long term while mitigating unintended side-effects and negative feedbacks (Wikhamn, 2019).

Arulrajah and Opatha (2016) define GHRM as all activities related to the design, implementation, and management of systems aimed at „greening“ employees. This transformation in employees' attitudes and behaviours is crucial for achieving the organisation's environmental goals, contributing to environmental sustainability, and creating benefits for individuals, society, the natural environment, and businesses (Opatha, 2013; Arulrajah *et al.*, 2015). Similarly, Kim *et al.* (2019) emphasize the role of top managers in communicating the organisation's environmental policy and plan, training and empowering employees to engage in environmental activities, and providing specific rewards for their efforts.

To improve sustainable environmental performance, organisations are implementing a range of GHRM practices. These practices are the actual programs, processes, and methods employed to reduce negative environmental impacts or increase positive ones (Arulrajah *et al.*, 2015). Various

classifications of green HR practices exist in academic literature. Some authors agree on the importance of employee recruitment, performance-based appraisal systems, training programs to raise environmental awareness, labor relations regulation, and reward systems to foster environmental innovation (Mandip, 2012; Renwick *et al.*, 2013; Deshwal, 2015; Hosain *et al.*, 2016). Others identify additional practices such as human resource planning (Mandip, 2012; Deshwal, 2015), online recruitment and application (Hosain *et al.*, 2016), the selection process, and orientation of new employees (Hosain *et al.*, 2016; Deshwal, 2015), human resource administration, talent management, career planning (Deshwal, 2015), green employee discipline, health and safety, and leadership management (Hosain *et al.*, 2016), green organisational culture management (Ramasamy, 2017), and exit management (Mandip, 2012; Renwick *et al.*, 2013).

Implementing GHRM practices and initiatives requires a high level of technical and managerial skills to develop innovation-driven environmental initiatives and programs, which significantly impact the sustainable competitive advantage of companies (Hosain *et al.*, 2016).

## METHODOLOGY

To answer questions of the study, bibliometric research methods, that utilize quantitative techniques to map the structure and evolution of scientific fields and disciplines, are used. These methods quantitatively describe, evaluate, and monitor published research, offering a systematic, transparent, and reproducible review process without subjective bias (Zupic and Cater, 2015; Donthu *et al.*, 2021).

While numerous databases report scientific research, the authors of this study focused on the Scopus database due to its extensive collection of papers from peer-reviewed indexed journals (Singh *et al.*, 2021). Moreover, Scopus offers broader journal coverage compared to the Web of Science and is widely used for conducting bibliometric analysis in the field of management (Zupic and Cater, 2015; Donthu *et al.*, 2021).

The records corresponding to this study's results were obtained in April 2024. This study employed several search procedures following the PRISMA 2020 Protocol, to make sure all publications about GHRM were covered.

The following search query was given within the Scopus database to obtain their initial research sample (figure 1):

TITLE-ABS-KEY ( "green human resource management" OR "GHRM" OR "green HRM" OR "Green Human Resource\* Management" OR "Green HRM" OR "Green HR management" OR "green human resource" OR "green hr" OR "green human resource practices" OR "GHRMP" OR "green HR practices" OR "green HRM practices" OR "green human resource\* management practice\*" OR "Environmental human resource management" ).

Figure 1. Search query

The initial search led to the identification of 959 documents from 2008 to 2024 (identification stage). Then, the search was restricted to article document type and English language which resulted in the identification of 753 articles from 2010 to 2024 (screening stage).

In the third step, titles, abstracts, and keywords from all 753 publications were thoroughly examined to make sure that all the articles that were extracted during our search were related to GHRM (eligibility stage). After eliminating papers that were not or less relevant and duplicates, we obtained a final collection of 684 articles from 2010 to 2024. Within figure 2 the authors graphically summarize the research process.

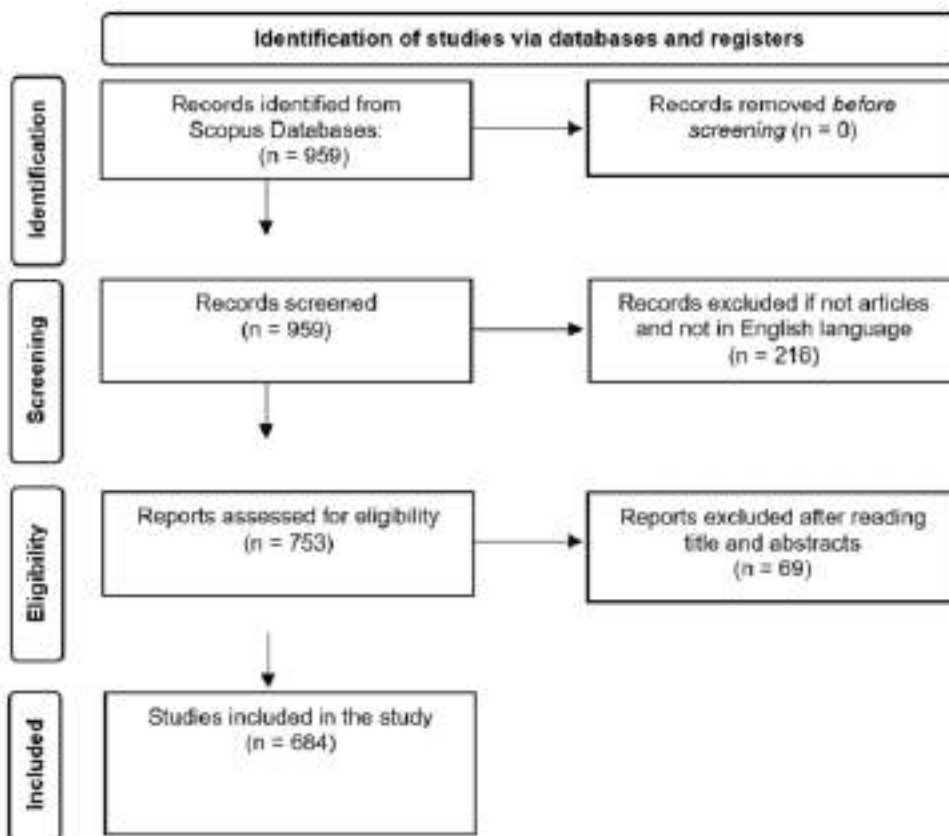


Figure 2. *Research process workflow*

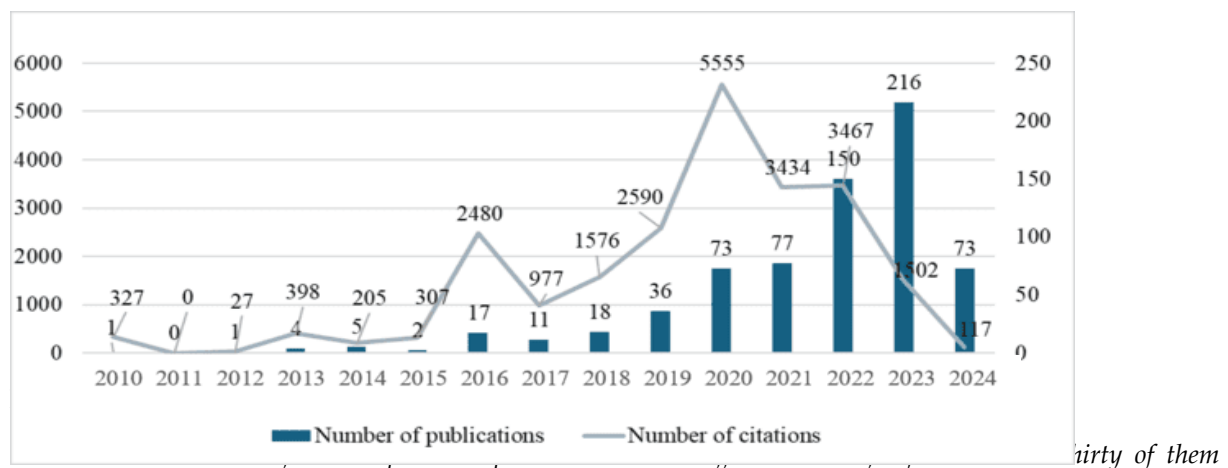
The final step prior to data analysis involved cleaning and standardizing the keywords. This process required homogenizing keywords that referred to the same topic but were named differently.

VOS viewer software was used for extracted data analysis and visualization. Performance analysis and science mapping (citation, co-citation, bibliographical coupling, and keyword co-occurrence analysis) were performed (Van Eck and Waltman, 2010).

## RESULTS

### Descriptive Bibliometric Analysis

The analysis revealed a significant increase in the number of publications in the field of GHRM. There is a slow increase between 2010 and 2018 (from 1 to 18 publications per year), but from 2019 onwards, the number of publications has risen sharply, with the highest number of publications in 2023 (216 published articles). The citation trend also illustrates the increasing popularity of the topic over a decade. Starting with 327 citations in 2010, the numbers saw a significant rise, particularly peaking at 5555 in 2019 and 3467 in 2022.



irty of them published at least five studies in the field of GHRM. Sustainability (Switzerland) (58 articles), Journal of Cleaner Production (36 articles), International Journal of Manpower (27 articles), Business Strategy and the Environment (21 articles), Corporate Social Responsibility and Environmental Management (20 articles), are among the top five journals that have published the maximum number of articles. In addition, the most cited article with 1017 citations, Renwick, et al., (2013) is published in International Journal of Management Reviews, the second most cited article with 846 citations, Singh et al., (2020), is published in Technological Forecasting and Social Change. The overview of the ten most active journals is stated in Table 1.

| Journal   | Publications | Citations |
|---|--------------|-----------|
| Sustainability (Switzerland)                                  | 58           | 1417      |
| Journal Of Cleaner Production                                 | 36           | 4026      |
| International Journal Of Manpower                             | 27           | 1132      |
| Business Strategy And The Environment                         | 21           | 1254      |
| Corporate Social Responsibility And Environmental Management  | 20           | 1342      |
| Environmental Science And Pollution Research                  | 20           | 216       |
| International Journal Of Human Resource Management            | 14           | 1501      |
| Frontiers In Psychology                                       | 13           | 101       |
| International Journal Of Sustainable Development And Planning | 13           | 43        |
| Benchmarking  | 12           | 530       |

Table 1. Most active journals

Researchers from 78 countries are investigating the field of GHRM. The highest contributions come from 10 countries, each with more than 30 publications. The top six most productive countries are all from Asia: China (165 publications), Pakistan (148 publications), Malaysia (116 publications), India (90 publications), and Saudi Arabia (53 publications). Following these are the United Kingdom (53), Australia (46), Indonesia (40), France (36), and the United States of America (32) (figure 4).

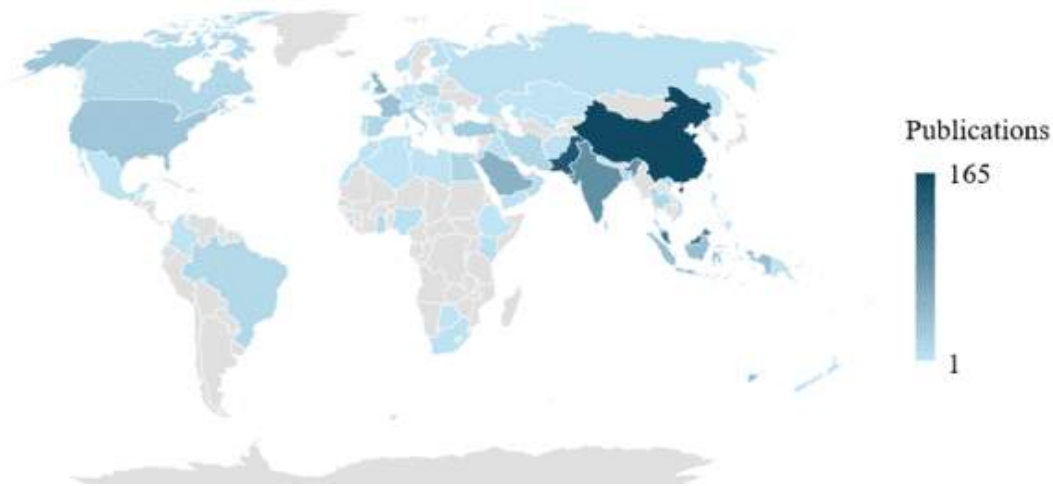


Figure 4. Authors' country of provenance

An analysis at the author level was performed, revealing that 892 out of 1843 authors met the threshold after keeping the criteria as the minimum number of documents per author ( $n = 1$ ) and number of citations per author ( $n = 10$ ). Authors who have made major contributions to GHRM research: M. Y. Yusliza (20 articles, 1355 cit.); C. J. C. Jabbour (12 articles, 1321 cit.), T. Ramayah (12 articles, 1157 cit.), D.W.S. Renwick (6 articles, 1387 cit.). TOP 10 researchers are shown in the Table 2.

| Author                           | Articles | Citations | H-index |
|----------------------------------|----------|-----------|---------|
| Yusliza, Mohd Yusoff             | 20       | 1355      | 40      |
| Jabbour, Charbel Jose Chiappetta | 12       | 1321      | 91      |
| Ramayah, Thurasamy               | 12       | 1157      | 119     |
| Nisar, Qasim Ali                 | 11       | 261       | 27      |
| Fawehinmi, Olawole               | 8        | 620       | 14      |
| Raza, Syed Ali                   | 8        | 469       | 60      |
| Tang, Guiyao                     | 7        | 905       | 19      |
| Yong, Jing Yi                    | 7        | 735       | 9       |
| Ren, Shuang                      | 7        | 511       | 31      |
| Chaudhary, Richa                 | 7        | 442       | 31      |

Table 2. Most active researchers

### Bibliometric Analysis

During the keyword co-occurrence network analysis, a minimum threshold of 10 occurrences per keyword was set. This analysis resulted in a network of 83 keywords that met the criteria. The most frequently occurring keywords were: green human resource management (437), human resource

(191), sustainability (118), environmental performance (117), environmental management (95), resource management (94), human resource management (85), green human resource management practices (84), sustainable development (71), and green innovation (50) (figure 5).

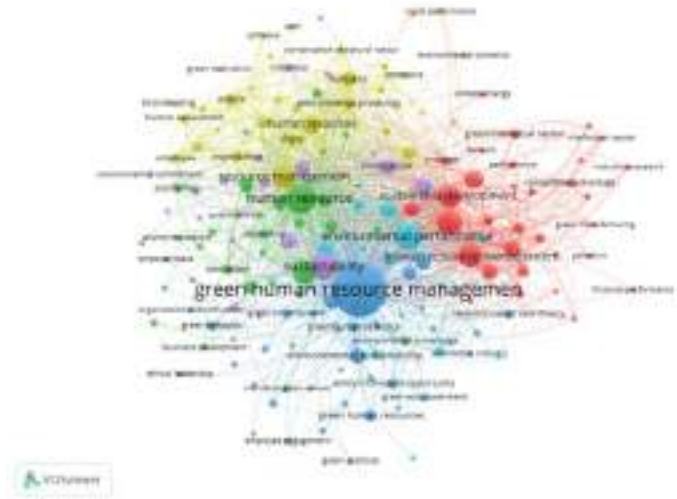


Figure 5. *Keyword co-occurrence network analysis*

Incorporating temporal analysis, the results revealed that the most recent research focuses on green innovation, green commitment, commerce, climate change, green intellectual capital, responsible leadership, green creativity, green organizational culture, organizational citizenship behavior, and green knowledge (figure 6).

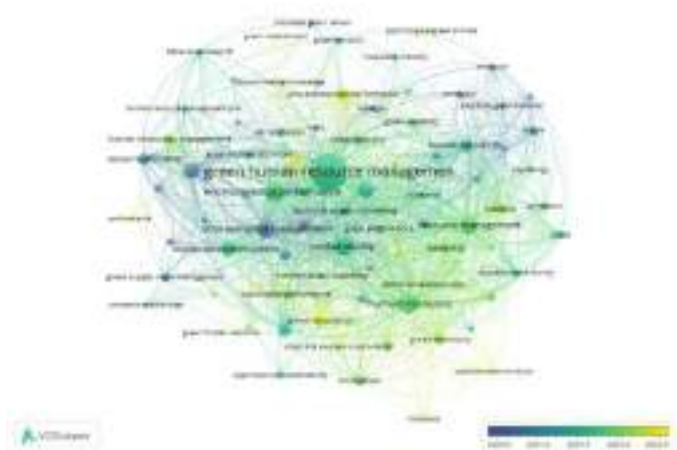


Figure 6. *Keyword co-occurrence network with temporal analysis*

As a result of the analysis, a 5-cluster structure of field research is determined in the table 3:

*The first (red) cluster* emphasizes the intersection of green human resource management (GHRM) practices and pro-environmental behaviors within organizations. It explores how GHRM initiatives foster an environmentally conscious workplace culture, where employees are knowledgeable, motivated, and empowered to engage in pro-environmental actions.



*The second (green) cluster* focuses on the importance of integrating environmental management into core business strategies to drive sustainable performance and gain a competitive advantage. It emphasizes the need for efficient resource allocation and green supply chain management to support sustainable development and organizational sustainability.

*The third (blue) cluster* delves into the evolving research methods and directions within the field of green human resources management. This cluster emphasizes applying diverse theoretical frameworks and empirical methods to enhance our understanding and improvement of GHRM practices. For instance, the AMO theory is commonly used to investigate how perceptions of environmental responsibility influence workplace behavior and decision-making. Additionally, questionnaire surveys are typically employed to study the impact of various HR practices on employee behavior and organizational outcomes.

*The fourth (purple) cluster* explores the link between green transformational leadership and green innovation, highlighting how leadership can drive creation and implementation of eco-friendly products, services, and processes. By leveraging the power of innovation and leadership, businesses, especially SMEs, can achieve sustainable growth while fulfilling their corporate social responsibility.

*The fifth (yellow) cluster* investigates the relationship between organizational citizenship behavior and the green economy, emphasizing how employee and stakeholder engagement drive sustainable economic practices. By fostering voluntary and proactive behaviors that exceed formal requirements and aligning them with environmental values and economic activities, organizations can enhance their green performance and contribute to the broader goals of the green economy.

| Cluster        | Title of cluster   | Main keywords   |
|----------------|--|---|
| Red Cluster    | Green Human Resource Management and Pro-environmental Behavior | green human resource management, pro-environmental behavior, environmental knowledge, individual green values, green commitment, psychological green climate, job satisfaction, green empowerment, green training |
| Green Cluster  | Environmental Management and Organizational Sustainability     | environmental management, environmental performance, sustainable development, green supply chain management, competitive advantage, sustainable performance, resource allocation, organizational sustainability   |
| Blue Cluster   | Research Directions and Practices                              | human resources, resources management, perception, human experiment, manager, questionnaire survey, ability-motivation-opportunity theory, article, employee green behavior, workplace                            |
| Purple Cluster | Green Transformational Leadership and Green Innovation         | green innovation, green transformational leadership, corporate social responsibility, small and medium-sized enterprises (SMEs), innovation   |
| Yellow Cluster | Organisational Citizenship Behaviour and Green economy         | green economy, environmental economics, organisational citizenship behaviour, stakeholder, environmental values, green performance, performance assessment  |

Table 3. *Thematic clusters*

GHRM studies use 33 different theoretical approaches, the most common of which are ability–motivation–opportunity theory, resource-based view, theory of planned behaviour, natural resource-based view, social exchange theory, social identity theory, and stakeholder theory (table 4).

| Theory  | Times mentioned |
|---|-----------------|
| Ability–Motivation–Opportunity Theory   | 24              |
| Resource-Based View Theory  | 21              |
| Natural Resource–Based View Theory  | 8               |
| Theory Of Planned Behaviour   | 8               |
| Social Exchange Theory  | 6               |
| Social Identity Theory  | 4               |
| Stakeholder Theory  | 4               |
| Grounded Theory   | 3               |
| Conservation Of Resources Theory Intellectual Capital View Based Theory Self-Determination Theory Signaling Theory Social Cognitive Theory Social Theory Systems Theory   | 2               |
| Affective Events Theory, Cognitive Consistency Theory, Complexity Theory, Componential Theory Of Creativity, Contingency Theory, Fuzzy Theory, Institutional Theory, Management Theory, Optimal Distinctiveness Theory, Psychological Theory, Sensemaking Theory, Supplies-Values Fit Theory, Theory Of Ability, Value-Belief-Norm Theory | 1               |

Table 4. *Most used theories*

## CONCLUSIONS

### *Theoretical Implications and Future Research Avenues*

This study of existing green human resource management literature reveals significant growth and interest in the field over the past decade. The number of publications and citations has increased sharply, particularly since 2019, indicating a rising recognition of GHRM's importance in academia.

*Sustainability (Switzerland), Journal of Cleaner Production, and International Journal of Manpower*, have emerged as leading journals for publishing GHRM research. Contributions from different continents (Europe, Asia, Australia, and North America) highlight the global relevance of GHRM; however, research is predominantly concentrated in Asian countries such as China, Pakistan, and Malaysia. The geographical distribution of GHRM research points to the importance of a global perspective. Comparative studies across different regions and industries can provide valuable insights into the contextual factors influencing GHRM practices and their effectiveness.

There is a need for further development and refinement of theories specific to GHRM. The frequent application of theories like Ability–Motivation–Opportunity Theory and Resource-Based View indicates their relevance, but new theoretical models that capture the unique aspects of GHRM should be explored. Moreover, the diverse theoretical frameworks employed in GHRM research highlight the need for a multidisciplinary approach to studying and understanding the field. Future research

should continue to integrate theories from various disciplines to provide a comprehensive understanding of GHRM practices and their impact.

Keyword co-occurrence and network analysis revealed five research clusters: green human resource management and pro-environmental behavior; environmental management and organizational sustainability; research directions and practices; green transformational leadership and green innovation; organisational citizenship behaviour and green economy. This study identified emerging research trends such as green innovation, green commitment, responsible leadership, green intellectual capital, green creativity, green organizational culture, organizational citizenship behavior, and green knowledge suggesting new directions for GHRM research. Scholars should investigate these areas further to understand their links to GHRM.

#### *Research limitations*

While the study provides valuable insights within the field of green human resource management, several limitations need to be acknowledged. Firstly, the study relies solely on the Scopus database, which, despite its extensive and recognized coverage, excludes some journals and publications. Consequently, relevant studies from other databases like Web of Science and Google Scholar may be missing, leading to potential incomplete coverage. Secondly, the analysis was restricted to articles published in English, which may result in the exclusion of significant research published in other languages or other types of documents. Lastly, while the study identified major clusters and themes, it may not delve deeply into specific subfields or emerging areas within GHRM that are less frequently studied but equally important.

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## EVALUATING DIGITAL SUSTAINABILITY IN EUROPE: ECONOMIC, SOCIAL, AND ENVIRONMENTAL DIMENSIONS

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### ABSTRACT

This study examines the intersection between digitization and sustainability using the concept of digital sustainability as a theoretical lens, which emphasizes the need for responsible and sustainable use of digital technologies to contribute to the achievement of holistic sustainable development that can embrace within the economic, societal, and environmental dimensions. Despite the growing interest in digital sustainability, existing analyses in the literature are still fragmented and lack an all-encompassing view capable of exploring the multiple effects resulting from digital transformation from economic, social, and environmental perspectives. Therefore, this study aims to fill this research gap by examining the complex relationships between digital technologies and sustainability to understand the impact of digital transformation on the three dimensions aimed at achieving a more sustainable future for European countries. To meet this objective, the study proposes a composite index, the Digital Development Index (DDI), which can assess the three dimensions of digital sustainable development across the European Union. Specifically, based on 227 indicators from the Eurostat database, the DDI index reveals different degrees of digital development in the European context for the economic, societal, and environmental dimensions, showing advanced digital development in Western and Northern Europe and instead persistent disparities in Southern, Central, and Eastern European countries. Our study contributes to the state-of-the-art regarding digital sustainability by introducing a new composite index that quantifies the triple perspective of digital sustainability in the European context, shedding light on established trends and dynamics. In particular, the study provides managers and policymakers with an understanding of the areas of greatest gap, strategic actions to be implemented and priorities to be followed to be guided by the best practices of some benchmark countries in digital sustainable development.

*Keywords: Digital Sustainability, Digital Technologies, Digital Transformation, DP2 Index, Europe, Sustainable Development.*

## INTRODUCTION

In recent years, significant transformations have unfolded due to the widespread adoption of digitization and information and communication technologies (ICTs) (Marolla, 2018). These changes have profoundly impacted the interconnectedness of individuals, societies, and countries. ICTs encompass devices, applications, and tools that influence various aspects of people's lives, work, access to goods and services, and interactions with the external environment (Dutton, 2004; European Commission, 2022).

Technological diffusion, exemplified by artificial intelligence (AI), machine learning (ML), blockchain, and the Internet of Things (IoT), has given rise to the digital imperative, introducing both opportunities and challenges (George *et al.*, 2020; Hammi *et al.*, 2018; Jarrahi, 2018). As with the most significant past technological revolutions, the ongoing digital transformation is expected to unleash multiple potential effects (OECD, 2017, 2020). Therefore, this paper aims to comprehensively observe the different effects of countries' digital transformation on their economic, social, and environmental dimensions.

Indeed, it has simultaneously emerged how the sustainable imperative also represents a critical and pressing concern that wealth creation should meet the basic needs of the current population without compromising the ability of future generations to meet their own needs (Bansal, 2019). Global challenges, ranging from climate change to resource scarcity, underscore the necessity for coordinated efforts across corporate, community, regional, and state levels (George *et al.*, 2016). In the contemporary era, success is not enshrined only from an economic perspective but also from an environmental and social perspective, recognizing how deeply interconnected these dimensions are (Kiron and Unruh, 2018).

From the intersection of the digital imperative and the sustainable imperative emerges the concept of digital sustainability (DS) (George *et al.*, 2020; Pan *et al.*, 2022). Despite the historical view of the conflict between digitization and sustainability, DS combines these strategic goals to achieve positive changes and synergies, emphasizing responsible and sustainable use of digital technologies (Markman *et al.*, 2016). Digital sustainability is a theoretical lens to address current challenges and a catalyst for achieving various goals, including the Sustainable Development Goals (SDGs) (European Commission, 2010; Pan and Zhang, 2020).

The SDGs, devised by the United Nations, constitute 17 goals toward achieving global challenges by 2030, like promoting sustainable economic growth, inclusive societies, and responsible practices. Balancing economic, social, and environmental needs is essential, as reflected in the EU 2020 development strategy (European Commission, 2010). However, disparities in ICT adoption and development among countries result in diverse economic, social, and environmental impacts (Gao *et*

*al.*, 2022). Therefore, it is crucial to redirect technological progress toward greater digital sustainability that can foster valuable opportunities (Del Río Castro *et al.*, 2021). However, to truly understand the scope and effects of digital disruption on the economic, social, and environmental development of European countries, this study aims to assess how digital development in the European context has affected these three dimensions. Despite the growing interest in digital sustainability in the literature, there is still a lack of studies that comprehensively and thoroughly observe the multifaceted effects of digital transformation in the European context. Existing studies often focus on single dimensions of sustainability, leaving a gap in understanding the comprehensive potential of digitization.

To address this gap, this study aims to evaluate and characterize the level of Digital Development in the European context, examining advancements across three essential dimensions—Digital Economy, Digital Society, and Digital Environment. Employing a quantitative aggregative approach and constructing the Digital Development Index (DDI) based on 227 indicators from the Eurostat database, this research seeks to provide insights into the current state of Digital Development in European countries. The findings aim to inform policymakers, researchers, and stakeholders involved in shaping strategies and initiatives for fostering digital progress in the European landscape.

## LITERATURE REVIEW

Sustainable development is rooted in the interconnection between economic prosperity, social equity, and environmental integrity (Alaimo *et al.*, 2021; Bartiromo and Ivaldi, 2023; Elkington, 1994; Ivaldi *et al.*, 2023; Purvis *et al.*, 2019). Aspects that come together in the concept of digital sustainability which encapsulates the importance of triple economic, social, and environmental dimensions (George *et al.*, 2020; Pan *et al.*, 2022; Brenner and Hartl, 2021). While digitization is a key enabler of economic development, social inclusion, and environmental protection (OECD, 2017; United Nations, 2015), it poses new challenges that need to be managed to avoid or contain potential negative effects (Brenner and Hartl, 2021; George *et al.*, 2020; Paiola *et al.*, 2021). Therefore, from these considerations comes the need for an in-depth understanding of how digital transformation has affected the development of the digital economy, digital society, and digital environment of different countries.

Digital technologies drive economic growth, supporting inclusive development and job creation aligned with SDG 8 (United Nations, 2015). ICTs foster digital economic and financial development through the promotion of tools such as mobile banking and digital wallets (Pradhan *et al.*, 2021). A crucial aspect of the digital economy is e-commerce which enhances global access to goods and services, reducing costs and generating new employment (Criveanu, 2023). Governments play a pivotal role by investing in digital infrastructure to ensure market competitiveness (Raj *et al.*, 2020).

Within social development, digitization addresses SDG 9 and SDG 10, aiming at inclusive innovations and reducing inequalities. Access to technology and digital skills development has a strong impact on social participation and digital inclusion (Helsper, 2008; Fisk *et al.*, 2023). For example, technology influences citizen participation by fostering greater electronic governance (Yong *et al.*, 2020; Paiola *et al.*, 2021). However, these technological advancements also bring challenges related to the privacy and data protection of society members (Acquier *et al.*, 2017; Romansky and Noninska, 2020; Suherlan, 2023).

Environmental sustainability, embodied in SDGs 7, 12, 13, and 15, underscores the intricate link between digitization and environmental impact (Karlilar *et al.*, 2023). ICTs contribute to the creation of digital environmental development characterized by increased energy efficiency enabled by smart energy systems (Lange *et al.*, 2020; Liu and Lu, 2021). However, increased ICT use raises concerns about energy consumption and CO<sub>2</sub> emissions, necessitating management aimed at pursuing a balance between benefits and negative environmental effects (Gao *et al.*, 2022; Andersen *et al.*, 2021). Indeed, digitization leads to more efficient processes but, at the same time, fuels e-waste and potential environmental degradation (Criveanu, 2023; Aksin-Sivrikaya and Bhattacharya, 2017).

In conclusion, this literature review shows how digitization can create ambivalent outcomes for sustainable development in its triple economic, social, and environmental dimensions if not managed appropriately. Therefore, the complex relationship between digital technologies and sustainability necessitates continuous research and strategic interventions to fully exploit the positive potential of digitization for a more sustainable future.

## METHODOLOGY

To pursue the research aim, we employed a quantitative aggregative methodology centered on index construction. Data for the comprehensive composite index comes from the Eurostat database. Eurostat's data covers a broad spectrum, including the economy, society, environment, and digital technologies.

We focused on indicators related to the Digital Economy, Digital Society, and Digital Environment within the "Digital Economy and Society" and "Environment and Energy" repositories. Indicators with missing data exceeding 50% of the sample's statistical units were excluded. Valid data for 227 indicators constituted our final dataset.

The scope of the country-level analysis was limited to the EU-27 due to incomplete data availability for non-EU units. For selected countries with missing indicator data, imputation was done using the horizontal mean calculated on standardized data.



Our investigation employed the DP2 Distance (Montero *et al.*, 2010; Pena, 1977; Somarriba and Pena, 2009), a non-compensatory parametric index relying on the linear regression model. This approach addressed challenges such as different units, arbitrary weights, and handling duplicate information (Bruzzi *et al.*, 2020; Ivaldi and Ciacci, 2021; Penco *et al.*, 2020). After adjusting polarity and imputing missing data, raw indicators were aggregated into sub-dimensions, each contributing to first-level dimensions like Digital Economy, Digital Society, and Digital Environment. These first-level dimensions were then aggregated into the composite concept of Digital Development.

The multi-stage statistical construction procedure for the overall Digital Development Index (DDI) involved collecting raw indicators (1), adjusting polarity (2), imputing missing data (3), aggregating into sub-dimensions (4), constructing first-level dimensions (5), and calculating the overall DDI by aggregating the three first-level dimensions (6). Higher DP2 scores signify positive Digital Development, while lower scores indicate less favorable conditions.

The DP2 indicator assesses each country's deviation from a reference baseline, representing the theoretical region with the lowest values for the examined indicators. For a given area  $j$ , the DP2 indicator is defined as follows:

$$DP_{2j} = \sum_{i=1}^n \left\{ \left( \frac{d_{ij}}{\sigma_i} \right) (1 - R_{i,i-1,i-2,\dots,1}^2) \right\}$$

where:  $i = 1, \dots, n$ ; (areas) and  $j = 1, 2, \dots, m$  (indicators)

$d_{ij} = |x_{ij} - x_{ij}^*|$  represents the difference between the value of the  $i$ -th indicator in the  $j$ -th area and the minimum value of the indicator in the least desirable theoretical scenario, which is the reference value of the matrix  $X$ .

$\sigma_i$  is the standard deviation of indicator  $i$ ;

$R_{i,i-1,i-2,\dots,1}^2$  is the coefficient of multiple linear correlation squared in the linear regression of  $X_i$  over  $X_{i-1}, X_{i-2}, \dots, X_1$ . It indicates the proportion of the variance of  $X_i$  that is linearly explained by the indicators  $X_{i-1}, X_{i-2}, \dots, X_1$ . This coefficient is a dimensionless number and is independent of the measurement units of the different indicators.

Subsequently, a cluster analysis was conducted to classify countries based on their scores along the three sustainable development dimensions and the overall DDI. The hierarchical cluster method suggested a configuration of 5 clusters, aligning with the outcome obtained through k-means clustering with 5 clusters, offering insights into regional trends. Higher clusters indicate better results.

## RESULTS

### *Digital Economy*

In assessing Digital Economy levels across European countries, distinct stratification emerges clearly. Finland leads with a score of 6.34, showcasing a robust technological infrastructure supporting digital business performance and the ICT workforce. Sweden (5.58) and the Netherlands (5.61) follow closely, displaying formidable digital economies and innovative business structures, particularly in e-commerce. Denmark (5.47) also holds a robust Digital Economy, emphasizing its integration of technology into the economic fabric. Luxembourg (4.34) and Malta (4.56) emerge as highly digitalized countries in the economic sector. In the mid-range, Ireland (4.20), Austria (4.29), Belgium (4.02), and Germany (3.80) exhibit moderate digitalization. The less developed countries in terms of Digital Economy include Hungary, Slovenia, Greece, Poland, and Romania (0.75 to 1.76). Cyprus (1.41) and Latvia (1.16) fall below the average, while Italy (1.99) shows a moderate level of Digital Economy. Bulgaria has the lowest score (0.00), indicating minimal digitalization, primarily attributed to slow technology adoption within enterprises and lower individual propensity for online transactions.

In spatial analysis, Nordic and Northern European countries consistently lead in Digital Economy scores, showcasing regional dedication to advanced technology. Northern European nations outperform their counterparts in Southern and Eastern Europe, reflecting a regional trend. Western European countries generally exhibit moderate to high digitalization levels. Southern and Eastern Europe show varied digital landscapes. Baltic nations excel, influenced by proactive digital innovation, while Central Europe shows diverse digitalization levels.

### *Digital Society*

In evaluating Digital Society across European countries (Table 3), distinct scores reveal varying degrees of technological advancement. The Netherlands leads with a score of 7.94, showcasing advanced digital infrastructure. Spain (5.28), Malta (6.30), and Denmark (6.42) also exhibit strong digital societies, featuring high technological integration. Germany, France, and Belgium fall mid-range (3.79 to 4.86), displaying moderate digitalization. Italy, Czechia, Portugal, and Estonia show balanced digitalization (3.03 to 4.54). Slovenia, Lithuania, Croatia (2.51 to 2.87), Latvia (2.54), and Greece (1.66) face challenges in certain aspects, indicating areas for improvement. Poland, Romania, and Bulgaria have lower scores, highlighting significant gaps in Digital Society that need strategic interventions.

In the regional context, Northern European nations and Western European counterparts lead in developing their Digital Society dimensions. Southern European nations generally show moderate development, leaving room for improvement. Eastern European and Baltic countries present a varied

landscape; some (Czechia, Hungary, Estonia) exhibit balanced development, while others (Slovakia, Slovenia, Lithuania, Croatia) face challenges. Southeastern European nations encounter significant hurdles in achieving advanced digital societies, emphasizing the need for substantial investments and strategic initiatives to spur digital growth.

### *Digital Environment*

The Digital Environment levels in selected European countries offer insights into their technological landscapes, emphasizing the integration of digital technologies for environmental sustainability. Italy (7.00) and the Netherlands (6.75) lead, showcasing a robust digital infrastructure. Germany (6.15) and France (6.06) closely follow, demonstrating proficiency in leveraging digital technologies for environmental initiatives. Spain (5.79) exhibits a well-established digital presence with implications for environmental progress. Belgium and Austria, with scores around 4.70 and 4.31, signify a reasonably developed Digital Environment, contributing to sustainable practices. Top scorers excel in circularity, material reuse, and energy sustainability and efficiency. However, challenges persist in waste management for more developed economies, partly due to electrical waste. Moving towards the lower end of the ranking, Hungary, Slovenia, and Lithuania (below 3.00) are in an early stage of development, with environmental initiatives yet to be fully realized. Bulgaria (1.57) highlights a need for improvement in digital environmental sustainability, particularly regarding resource efficiency. Analyzing broader regional trends in Digital Environment levels, Northern European countries consistently exhibit high scores. Southern European countries, like Spain and Italy, also perform well but at a slightly slower pace. This indicates a regional trend where Northern Europe leads in the Digital Environment sphere. Eastern European countries tend to have lower scores, suggesting a potential divide between Eastern and Western Europe.

### *Digital Development Index (DDI)*

Assessing the overall Digital Development Index (DDI) of European countries reveals a clear hierarchy, with the Netherlands leading the landscape with a score of 7.90, affirming its frontrunner position in digital development. Spain (5.43) and Malta (5.42) secure the second and third positions, showcasing substantial digital presence in Europe. Denmark, Germany, and France (scores around 5) maintain a competitive edge, demonstrating strong digital economies, societies, and environments. Belgium, Sweden, and Luxembourg follow closely, contributing significantly to Europe's digital development. Ireland, Austria, Italy, and Finland (scores around 4.5) exhibit a solid commitment to digital development, reinforcing Europe's digital competitiveness. Moving to the middle range, Czechia, Portugal, and Estonia reflect moderate levels of digital development. Cyprus, Slovakia, Hungary, and Slovenia (scores between 2.63 and 2.51) show growing digital infrastructure. Lithuania and Croatia maintain a digital presence with scores around 2.1. At the lower end, Greece and Poland

face challenges, Romania shows potential for growth, and Bulgaria indicates minimal digital development, emphasizing the need for focused efforts in establishing digital infrastructure and mindset.

Analyzing the DDI scores across European countries reveals distinct regional patterns. Top-performing countries like the Netherlands, Spain, and Malta showcase advanced digital infrastructures, emphasizing a Western European concentration of digital prowess. Central and Northern European nations exhibit a collective commitment to robust digital landscapes. Their strong digital foundations signify a shared emphasis on technology for economic growth, business competitiveness, enhanced digital connectivity, literacy, and environmental sustainability. In Southern Europe, Italy aligns with the regional trend of solid digital presence, while Greece lags behind, suggesting potential disparities in digital development. Central and Eastern European countries show moderate digital development, indicating a gradual progression with room for growth. Southeastern European countries face challenges in robust digital development, indicating the need for targeted interventions. Outliers like Luxembourg and Ireland surpass regional expectations, emphasizing the impact of unique national strategies on digital standing.

| Countries   | DEC O scores | DEC O ranks | DEC O clusters | DSO C scores | DSOC ranks | DSOC clusters | DENV V scores | DENV V ranks | DENV V clusters | DDI scores | DDI ranks | DDI clusters |
|-------------|--------------|-------------|----------------|--------------|------------|---------------|---------------|--------------|-----------------|------------|-----------|--------------|
| Austria     | 4,21         | 8           | 4              | 4,76         | 10         | 4             | 4,31          | 7            | 3               | 4,60       | 11        | 4            |
| Belgium     | 4,02         | 9           | 4              | 4,86         | 9          | 4             | 4,71          | 6            | 3               | 4,83       | 7         | 4            |
| Bulgaria    | 0,00         | 27          | 1              | 0,39         | 27         | 1             | 1,57          | 27           | 1               | 0,00       | 27        | 1            |
| Croatia     | 2,04         | 17          | 2              | 2,51         | 22         | 2             | 2,63          | 18           | 2               | 2,09       | 22        | 2            |
| Cyprus      | 1,41         | 24          | 2              | 3,91         | 16         | 3             | 2,31          | 20           | 1               | 2,63       | 17        | 2            |
| Czechia     | 2,80         | 14          | 3              | 4,54         | 11         | 3             | 3,49          | 13           | 3               | 3,82       | 14        | 3            |
| Denmark     | 5,47         | 4           | 5              | 6,42         | 2          | 5             | 3,23          | 15           | 2               | 5,22       | 4         | 4            |
| Estonia     | 3,13         | 11          | 3              | 3,96         | 14         | 3             | 2,37          | 19           | 1               | 2,98       | 16        | 3            |
| Finland     | 6,34         | 1           | 5              | 5,80         | 4          | 4             | 2,21          | 22           | 1               | 4,50       | 13        | 4            |
| France      | 2,87         | 13          | 3              | 4,12         | 12         | 3             | 6,06          | 4            | 4               | 4,89       | 6         | 4            |
| Germany     | 3,80         | 10          | 4              | 3,79         | 17         | 3             | 6,15          | 3            | 4               | 4,90       | 5         | 4            |
| Greece      | 1,68         | 22          | 2              | 1,66         | 25         | 1             | 2,24          | 21           | 1               | 1,35       | 24        | 1            |
| Hungary     | 1,66         | 23          | 2              | 4,11         | 13         | 3             | 1,80          | 26           | 1               | 2,54       | 19        | 2            |
| Ireland     | 4,29         | 7           | 4              | 5,56         | 5          | 4             | 3,47          | 14           | 3               | 4,65       | 10        | 4            |
| Italy       | 1,99         | 19          | 2              | 3,03         | 18         | 2             | 7,00          | 1            | 5               | 4,59       | 12        | 4            |
| Latvia      | 1,16         | 25          | 2              | 2,54         | 21         | 2             | 2,78          | 17           | 2               | 2,04       | 23        | 2            |
| Lithuania   | 1,80         | 20          | 2              | 3,02         | 19         | 2             | 2,17          | 24           | 1               | 2,12       | 21        | 2            |
| Luxembourg  | 4,34         | 6           | 4              | 5,38         | 6          | 4             | 3,78          | 11           | 3               | 4,71       | 9         | 4            |
| Malta       | 4,56         | 5           | 4              | 6,30         | 3          | 5             | 4,07          | 8            | 3               | 5,42       | 3         | 4            |
| Netherlands | 5,61         | 2           | 5              | 7,94         | 1          | 5             | 6,75          | 2            | 5               | 7,90       | 1         | 5            |

|          |      |    |   |      |    |   |      |    |   |      |    |   |
|----------|------|----|---|------|----|---|------|----|---|------|----|---|
| Poland   | 1,76 | 21 | 2 | 1,68 | 24 | 1 | 2,00 | 25 | 1 | 1,25 | 25 | 1 |
| Portugal | 2,04 | 18 | 2 | 3,92 | 15 | 3 | 3,94 | 9  | 3 | 3,56 | 15 | 3 |
| Romania  | 0,75 | 26 | 1 | 1,15 | 26 | 1 | 2,19 | 23 | 1 | 0,87 | 26 | 1 |
| Slovakia | 2,68 | 16 | 3 | 2,16 | 23 | 2 | 3,71 | 12 | 3 | 2,54 | 18 | 2 |
| Slovenia | 2,68 | 15 | 3 | 2,87 | 20 | 2 | 2,83 | 16 | 2 | 2,51 | 20 | 2 |
| Spain    | 2,94 | 12 | 3 | 5,28 | 7  | 4 | 5,79 | 5  | 4 | 5,43 | 2  | 4 |
| Sweden   | 5,58 | 3  | 5 | 5,02 | 8  | 4 | 3,89 | 10 | 3 | 4,77 | 8  | 4 |

Table 1: DP2 scores, ranks, and clusters.

DECO=Digital Economy; DSOC=Digital Society; DENV=Digital Environment; DDI=Digital Development Index.

Higher scores indicate better results; lower ranks indicate a better positioning; higher clusters indicate better performance.

## DISCUSSION

The analysis, driven by the construction of the Digital Development Index (DDI), delves into the tripartite dimensions of digital sustainability – economic, social, and environmental (Brenner and Hartl, 2021; George *et al.*, 2020; Pan *et al.*, 2022). The study reveals a distinct digital hierarchy in the European landscape, with the Netherlands leading in robust digital development across Digital Economy, Digital Society, and Digital Environment. Noteworthy achievements in digital development are attributed to national strategies, such as the Dutch Digitalisation Strategy 2.0 (European Union, 2022). Spain, Malta, Denmark, Germany, and France also emerge as competitive players, showcasing well-established digital economies, societies, and environments through strategic initiatives and national plans (European Union, 2021; European Union, 2023a). However, challenges persist in countries like Greece, Poland, Romania, and Bulgaria, emphasizing the need for concentrated efforts to enhance digital infrastructure and foster a digital mindset.

The spatial analysis also uncovers regional clusters in Western and Northern Europe, underscoring the necessity for nuanced approaches to address diverse challenges and opportunities.

Therefore, sustainability is imperative for digitization. Indeed, uncontrolled digitization could lead to a digital divide, posing new threats and increasing vulnerability. Preventing this occurrence emphasizes the importance of a responsible and sustainable approach to technology adoption, considering the potential consequences of technologies and approaching digitization in a manner that upholds sustainability and ethical principles. The study points out that while digitization is critical to accelerating social and sustainable transitions, achieving sustainable digitization is a complex task that depends on multiple aspects. The numerous tensions arising from interconnected goals necessitate a systemic perspective and effective governance to protect and maintain security and trust in the digital

landscape. The analysis acknowledges the challenges of achieving a sustainable net benefit due to these tensions.

## IMPLICATIONS, LIMITATIONS, AND FUTURE RESEARCH AREAS

The article aims to revive the debate around the concept of digital sustainability, highlighting the progress made by some countries and the difficulties encountered by others through the creation of a composite index capable of considering the triple economic, social, and environmental dimensions of digital development.

The gaps in some areas need strategic interventions and significant investments to stimulate the achievement of sustainable digital development like that achieved by some benchmark countries. Lagging countries could learn from the strategies and actions implemented by leader countries in these three dimensions to try to identify trends and lines of development suitable for the pursuit of long-term sustainable development. Therefore, it becomes crucial to understand which dimension impacts most on overall development, conducting a cost-benefit analysis, and which priorities to draw up, also depending on an individual country's available skills and resources to achieve this final goal. Despite contributing significantly to the state-of-the-art, the study recognizes its limitations. The focus on the broader digital landscape rather than specific technologies prompts the need for future research to address emerging technologies' governance challenges. Technologies like blockchain and the metaverse, rapidly evolving, require in-depth assessments of their consequences. The study calls for further exploration of individual, organizational, and societal dynamics, considering collaboration and coordination among various stakeholders, such as policymakers, governments, businesses, organizations, and citizens. Indeed, the achievement of Sustainable Development Goals (SDGs) is identified as highly dependent on the close collaboration, cooperation, and coordination of these stakeholders.

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## RISK ASSESSMENT FOR SUSTAINABLE INVESTMENTS

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### ABSTRACT

**Purpose:** The phenomenon of risk analysis of sustainable investments represents a much discussed topic in the literature as the analysis methods are varied and very complex. Although sustainable investments are gaining popularity, their evaluation remains a challenge due to often inadequate analysis methods. This article presents an empirical analysis comparing two analysis methods, traditional free cash flow (FCF) analysis, and an innovative version that integrates Monte Carlo simulations to quantify the probability of shortfall.

**Methodology:** The article compares the traditional FCF method with the proposed approach, using concrete examples to highlight the weaknesses of conventional methods and explain the advantages of the new two-dimensional model.

**Findings:** Integrating risk into FCF assessment leads to a more accurate and beneficial view of sustainable investments, demonstrating that they can have a more favorable risk-return profile than traditional investments. This scenario allows you to increase the resilience of the portfolio and make it less vulnerable to negative events. An analysis method including additional tools considerably improves risk management by taking into account the potential for high losses.

**Originality:** The article offers an original contribution to the evaluation of sustainable projects, providing a practical method for integrating risk into FCF analysis and demonstrating the benefits of this approach for a more complete and accurate evaluation of sustainable investments.

*Keywords: Sustainability Investment, Profitability Measure, Risk Assessment, Discount Factor, Shortfall Probability, Monte Carlo Simulation.*

### INTRODUCTION

The measures to improve sustainability are often considered unprofitable because classical analysis of free cash flows typically focuses on a more likely case for project evaluation. Risk aspects are usually overlooked or considered non-quantitatively.

Sustainability investment analysis, which follows ESG (Environmental, Social, and Governance) principles, is becoming an increasingly interesting aspect, not only academically but also operationally, of significant interest to companies, investors, and financial institutions globally (Jain, et al., 2019).

"Sustainable investments" are defined as an investment action that seeks to combine social and/or environmental benefits with financial returns, thus linking investors' social, ethical, ecological, and economic concerns (Brzeszczyński and McIntosh, 2014).

Despite the growing importance of sustainability in business, many business leaders and stakeholders believe that investing in sustainability reduces profitability (Tantram, 2021). The authors discuss why sustainable measures and behaviors are easily judged as unprofitable and why this is due, among other things, to a largely unilateral view of returns and a focus on the most likely scenarios. Strengthening the quantification of risk in the context of sustainable economic investment evaluation could shift the evaluation in favor of sustainability measures.

Companies have started to derive commercial benefits from responsible practices, and investors are also focusing more on "value" having understood that a company's sustainability strategy can lead to better risk-adjusted returns (Vives and Wadhwa, 2012).

Companies engaged in sustainable investments and business practices question whether they can compete with unsustainable companies (Schittenhelm, 2013). Many aspects of sustainable management are certainly linked to higher costs or missed sales, and many companies would only be able to bear such burdens to a limited extent. However, these expenses often come with better risk positions for the companies involved (Farayibi, 2015).

In other words, such sustainable investments could be considered as an insurance premium against risks paid to receive specific protection. On the other hand, risks always have the character of uncertainty. If risks do not materialize, the previously purchased insurance coverage was unnecessary, and the cost of the insurance premium reduces the company's profit.

Environmental risks play a crucial role in evaluating the economic efficiency of investment projects; so it is important to consider the potential environmental risks associated with the project. These risks can have a significant impact on the overall economic feasibility of the project and should be carefully assessed to make informed decisions (Kabilovna, 2024).

The article examines the impact of risk consideration on the evaluation of sustainable projects. Using examples, the weaknesses of conventional methods are described and discussed, and a more innovative one is presented.

Traditional free cash flow (FCF) analysis often underestimates the potential of sustainable projects due to the lack of risk consideration. This article proposes an alternative method that integrates risk

analysis into FCF evaluation, using the discount factor and Monte Carlo simulations to quantify the probability of shortfall.

The presented paper uses shortfall probabilities as a relevant risk measure for classical free cash flow analyzes and illustrates how sustainable investments are viewed differently and even more attractive in a two-dimensional model of this kind. Risk measurement is carried out by adjusting the discount factor and measuring the probability of shortfall during Monte Carlo simulations.

The research questions set by the authors are:

HQ1: Do sustainable measures really reduce the cost of capital?

HQ2: Do the sustainable measures justify the adjustment of the discount rate?

In addition, this article demonstrates the application of Monte Carlo Simulation in a concrete case to address a gap in existing research (Kabilovna, 2024).

The presented document uses shortfall probabilities as a relevant risk measure for classical free cash flow analyses and illustrates how sustainable investments are seen differently and also more attractively in a bidimensional model of this type.

## **BACKGROUND**

Nowadays, the investment system is increasingly influenced by an evolving landscape where ecological risks are assuming a more central role. Stakeholders are becoming more attentive to the environmental impact of companies and consider it in their evaluations. This means that ecological risks can have a significant impact on a company's financial performance and overall market reputation. Companies that do not properly assess and manage these risks could face negative consequences. (Lam, 2014)

Examples of such risks that can be reduced through sustainable measures include the following. Sustainable investments can include precautions to prevent or reduce the extent of any type of negative events and damages, such as poor working conditions or deficiencies in terms of safety. Such events and their future costs could encompass environmental, social, and economic damages inflicted on society. Naturally, the risk increases as precautions decrease. (Flad, et al., 2012)

Reputational risks are a direct consequence of these negative events. Customers might consider switching products or accepting competitor products despite higher prices. Consequently, sustainable measures reduce these reputational risks. Investments in better working conditions, high safety standards, more attractive wages and salaries, and improved social security simultaneously reduce the risk of employee turnover. At the same time, satisfied and motivated employees are crucial for producing high-quality products. (Chava, 2014).

Simultaneously, sustainable behavior can improve access to financial capital and enable further

investments. Additionally, financing costs might decrease both for equity financing and debt financing. Finally, sustainable companies might anticipate adverse situations, protecting themselves from potential future sanctions, bans, or other trade restrictions under stricter legal conditions.

In evaluating the sustainability of investments, considerations about free cash flows are made more frequently (Graham, Harvey, 2001).

More specifically, this means that the expected cash flows associated with an investment are evaluated for certain scenarios using classic investment criteria such as Net Present Value (NPV) and Internal Rate of Return (IRR). Both criteria measure the extent to which cash flows meet a specified minimum return. This minimum return is based on the company's Weighted Average Cost of Capital (WACC). Increased risk should result in an increase in both equity and debt costs. However, risk is not explicitly evaluated (Ragotzky, et al., 2020).

The weaknesses of this approach include:

- insufficient consideration of risks,
- no systematic assessment of risks associated with investment,
- focus on a "very likely" case,
- indifference towards a universal minimum return for all projects.

Although the weaknesses of this method are well-known, and the risk theme plays a significant role (Ross et al., 2018), especially in theory; in practice, a systematic risk assessment rarely occurs (Gormsen, Huber, 2023).

## **METHODOLOGY**

Evaluating sustainable investments represents a complex challenge, as it requires considering not only traditional financial returns, but also environmental, social and governance (ESG) factors. Traditional analysis methods, such as free cash flow (FCF) analysis, often fail to fully capture the long-term value of sustainable investments, as they do not adequately account for the risks and opportunities associated with these ESG factors.

As highlighted by the empirical analysis provided, sustainable investments may initially be perceived as pure cost drivers, resulting in an underestimation of their potential profitability. To overcome this limitation, it is essential to integrate a specific risk assessment within the analysis process.

In this section, we will present an innovative method for evaluating sustainable investments that integrates Monte Carlo simulations to quantify the probability of shortfall, i.e. the difference between expected cash flows and those actually realized. This two-dimensional approach allows you to consider both the expected value and the probability distribution of cash flows, providing a more complete view of the risk-return profile of sustainable investments.

The proposed methodology will be compared with the practical application of traditional analysis methods in order to validate the advantages of the innovative one.

#### BUSINESS CASE Protective Investment

A company works with a WACC of 20%. For a concrete project, we assume the following cash flow:

Case 1: (-2,800; 1,000; 1,000; 1,000; 1,000; 1,000).

Id est after an investment of 2,800€ in year 0, we expect positive cash flows of 1,000€ each year for the upcoming next 5 years.

The respective investment criteria result to  $NPV = 190.61\text{€}$  and  $IRR = 23.06\%$ , and the project would be accepted.

a) The above cash flow only describes one possible scenario. If we assume a penalty of 500€ in year 5 due to missing sustainable measures the cash flow results to:

(-2,800; 1,000; 1,000; 1,000; 1,000; 500)

and  $NPV = -10.33\text{€}$  and  $IRR = 19.82\%$ , and the project would be rejected. The question to be asked is which probability for such a case is expected and based on that an expected  $NPV$  and  $IRR$  could be calculated.

b) On the other hand, additional sustainable investments or precautions, that might prevent from a penalty payment in year 5 might cost additional 200€ in year 0 which leads to the following cash flow:

Case 2: (-3,000; 1,000; 1,000; 1,000; 1,000; 1,000).

Using  $NPV$  (with the original discount rate of 20%) and  $IRR$  criteria we receive the following results:

$NPV = -9.39\text{€}$

$IRR = 19.86\%$

Since the  $NPV$  is negative and the  $IRR$  is below the set benchmark of 20%, the sustainable investment would actually be rejected. The company actually decided to buy protection against penalty payments. The positive effect of this kind of insurance is not measured.

Table 1. *Business Case: Protective Investment*

#### Measuring Risk

In the following, the calculation example is used to show the extent to which the concrete evaluation of risks in the decision-making process can show sustainable investments to be more economically interesting.

The methods used to account for risk are:

- Adjustment of the discount rate
- Calculation of a non-profitability probability (shortfall probability) through scenario analyses

or Monte Carlo simulation

### **Adjustment of the discount rate**

We consider case b) from above, id est the cash flow: (-3,000; 1,000; 1,000; 1,000; 1,000; 1,000). An adjustment of the discount rate, for example 19% instead of 20%, would make the investment attractive again. In that case the *NPV* would increase ( $NPV = 57.63\text{€}$ ) and the *IRR* would beat the benchmark.

The above shows that risk assessment can change the view on projects. It is not an attempt to make the project look good but a sound consideration of an additional aspect of an investment. Following the above example, one realizes that the choice of a discount rate is crucial for the assessment of a project. In general, companies use their cost of capital as the relevant discount rate for the calculation of a net present value. The cost of capital describes the expectation of equity and debt capital providers with regard to their return on investment. Capital providers should tend to reduce their expectations if there is less risk involved in an investment. Above we discussed some of the aspects that might justify for a risk reduction. Nonetheless, we are talking about a trend not a concrete adjustment. The 19% in our example was randomly chosen. The classical theoretical approach to calculate the cost of capital is via the calculation of the weighted average cost of capital (*WACC*) which includes the cost of equity and the cost of debt:

$$WACC = \frac{\text{market value equity}}{\text{total assets}} \cdot \text{cost of equity} + \frac{\text{market value debt}}{\text{total assets}} \cdot \text{cost of debt}$$

For most applications, it is reasonable to include a tax shield for debt in the *WACC* calculation.

In our context, the determination of adequate cost of equity and cost of debt remains a challenge because the risk reduction effects described above must be integrated. The classical approaches (for example the capital asset pricing model for the cost of equity) only help to a limited extent because they are backwards orientated and consider mainly historical developments (Ross et al. 2018).

### **Shortfall probability**

A shortfall probability or probability of default generally describes the probability of remaining below a specified limit  $z$  (Wengert/Schittenhelm 2013). For the specific case of an investment evaluation, such a limit is meaningfully a net present value of  $z = 0$  for the *NPV* criterion or the expected minimum return for the *IRR* criterion. In those cases, the project would be considered not profitable and rejected. Mathematically expressed, a shortfall probability for a given random variable (discrete or continuous) can be calculated by determining the lower partial moment  $LPM_0$  for a given limit value  $z$ :

1) Discrete random variable:

$$LPM_0(X) = \sum_{j=1}^n \delta_j p_j \quad \text{with} \quad \delta_j = \begin{cases} 1 & \text{if } X_j < z \\ 0 & \text{else} \end{cases}$$

where  $p_j$  are the probabilities of the realisations of  $X_j$  for the given distribution  $X$ .

2) Continuous random variable:

$$LPM_0 = \int_{-\infty}^z (z - x)^0 \cdot f(x) dx$$

where  $f(x)$  is the density function of  $X$ .

### Monte Carlo Simulation for one Parameter and Uniform Distribution

Returning to our example we now consider the effect of different scenarios. One way is to assume a discrete distribution and concentrate on a limited number of cases with different occurrence probabilities. We will use the continuous case here and apply Monte Carlo simulation in order to create a large number of scenarios, a multi-iterative statistical method.

The Monte Carlo method is a valuable tool for assessing and managing environmental risks in an investment project, helping to improve financial performance, reduce risks and increase transparency.

The assessment is the same for both cases. We calculate expected value and shortfall probability. For the shortfall probability we set the limit value  $NPV = 0$ . All simulations and calculations were made with *Analyze Data* from Excel.

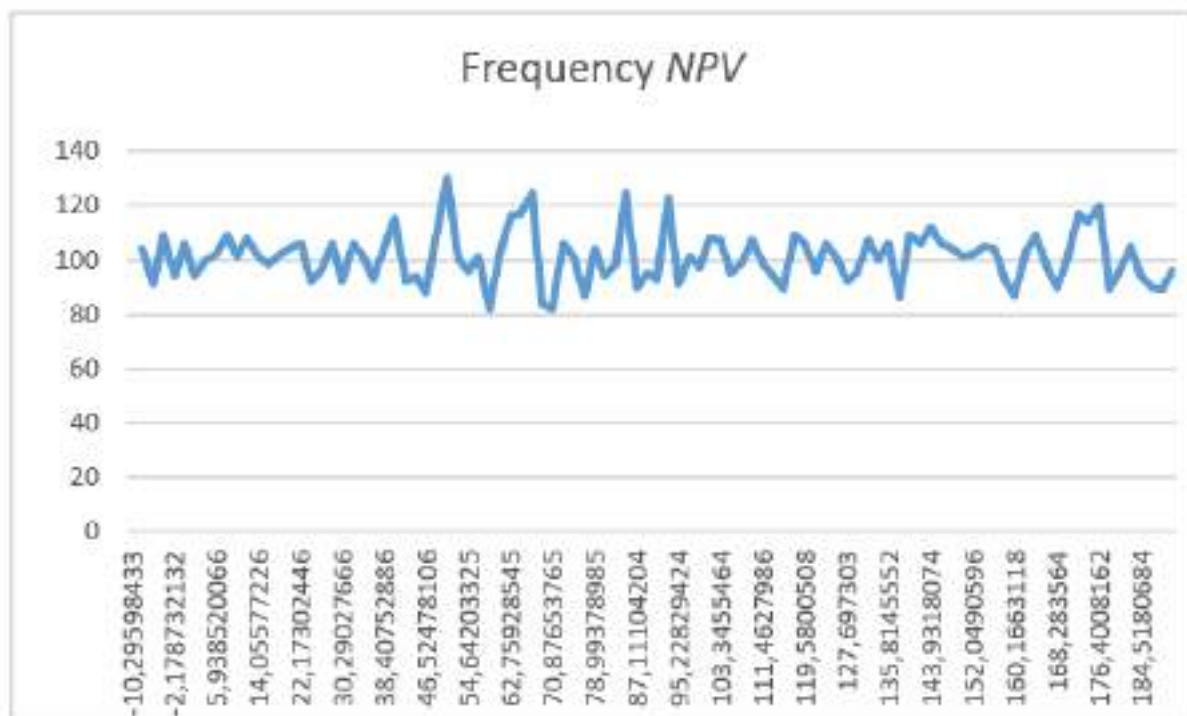


Figure 1. Frequency distribution of NPVs for uniform distributed penalty payments

In our first consideration, we consider penalty payments in year 5 for the cash flow with an initial investment of 2,800€. The penalty payments are modeled as uniform distributed in the range between 0€ and 500€. Given 10,000 simulation we receive the following result:

- Arithmetic Mean of NPVs: 89.97€



- Shortfall Probability ( $NPV < 0$ ): 5.1%

The average NPV decreases and we recognize a 5.1% probability of a non profitable development of the project.

The frequency distribution of NPVs clearly demonstrates the assumption of a uniform distribution for the penalty payments with NPV values between -10.33€ and 190.61€.

#### Monte Carlo Simulation for one Parameter and Normal Distribution

Alternatively, we modelled the penalty payments as normal distributed. We assume an average penalty of 250€ with a standard deviation of 100€. The results for 10,000 simulations are:

- Arithmetic Mean of NPVs: 90.47€
- Shortfall Probability ( $NPV < 0$ ): 1.1%.

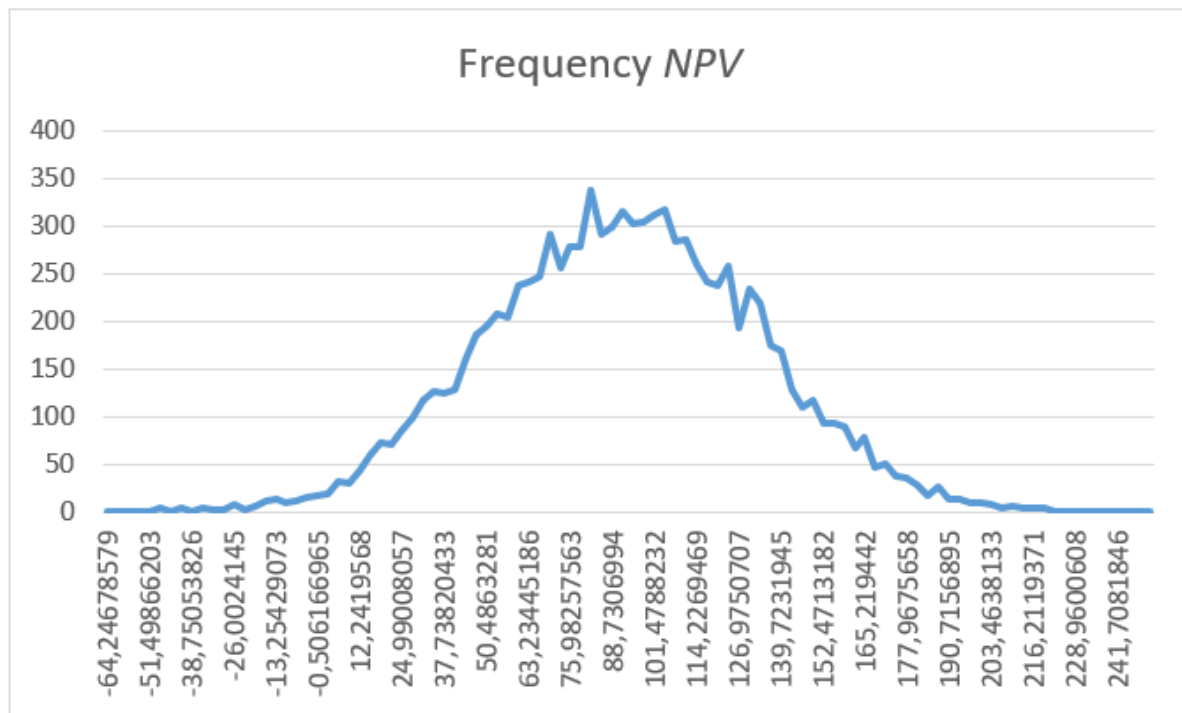


Figure 2. Frequency distribution of NPVs for normal distributed penalty payments

The frequency distribution of NPVs represents a normal distribution now. Obviously, the normal distribution also leads to negative penalties which increase the NPV. Those scenarios should be cancelled out. The average NPV would be slightly smaller, but the shortfall probability remains unchanged since only extreme positive cases are adjusted.

**BUSINESS CASE Comparing alternatives**

In a world where technology is advancing at an unstoppable pace, the question of the role of robots and artificial intelligence in the workplace arises. The number of robots in Amazon warehouses for example has increased by over 750,000 since 2018, and this trend seems unstoppable (yahoolfinance, 2024). It may sound worrying at first that robots are increasingly replacing human workers. Jobs are being lost, and that is a reality that cannot be ignored. But a closer look reveals a facet of this development that can be quite positive: the safety and health of workers.

Especially in areas where work is associated with potential health hazards, robots can provide a sustainable solution. By using robots for hazardous work, people can be protected from injuries and health risks. The automation of hazardous tasks can help to reduce accidents at work and minimize the physical strain on workers.

Furthermore, by using robots, companies can also achieve economic benefits that are sustainable in the long term. Investing in robot technology can lead to an increase in efficiency, productivity and quality. This in turn can strengthen the company's competitiveness and contribute to stable and sustainable economic development in the long term.

It is also important to recognize that the use of robots does not only require the purchase of the technical equipment. It also requires significant investment in training personnel or hiring skilled workers who are able to effectively operate and maintain the robotic technology. This means that companies not only need to allocate financial resources to the purchase of robots, but also invest in the development of their employees to ensure that they can make the most of the new requirements and opportunities offered by robotics. These investments must also be included in the calculation of the sustainability.

It is important to emphasize that replacing jobs with robots is not a simple matter and has far-reaching implications. A two-dimensional approach can help to improve the assessment and requires a balance to be struck between return and risk taken.

Table 2. *Business Case: Comparing alternatives*

### **Monte Carlo Simulation for Several Parameters and Uniform Distribution**

For illustration, we model to alternative cases with and without the use of robots with respective cash flows for the years 1 to 4 uniformly distributed.

#### Case 1: Use of Humans

The initial investment is 650, in the upcoming years a positive cash flow is expected, uniform distribution in [50;150], in year 4 the terminal value is modeled as a uniform distribution in [900;1100]

#### Case 2: Use of robots

The initial investment is 800, in the upcoming years a positive cash flow is expected, uniform distribution in [180;220], in year 4 the terminal value is modeled as a uniform distribution in [700;1100]

Thus, the use of robots requires a higher initial investment. During the following years robots lead to lower costs than humans but eventually the terminal value is expected to be lower.

a) Case 1 with initial investment of 650€ and 2.000 simulations:

- Arithmetic Mean of NPVs: 42,90€
- Shortfall Probability ( $NPV < 0$ ): 17,8%

Again, the arithmetic mean of the simulations is close to our original calculation. In 17,8% of the cases the project would not be profitable. The following graph shows the distribution of the NPVs created by the simulation.

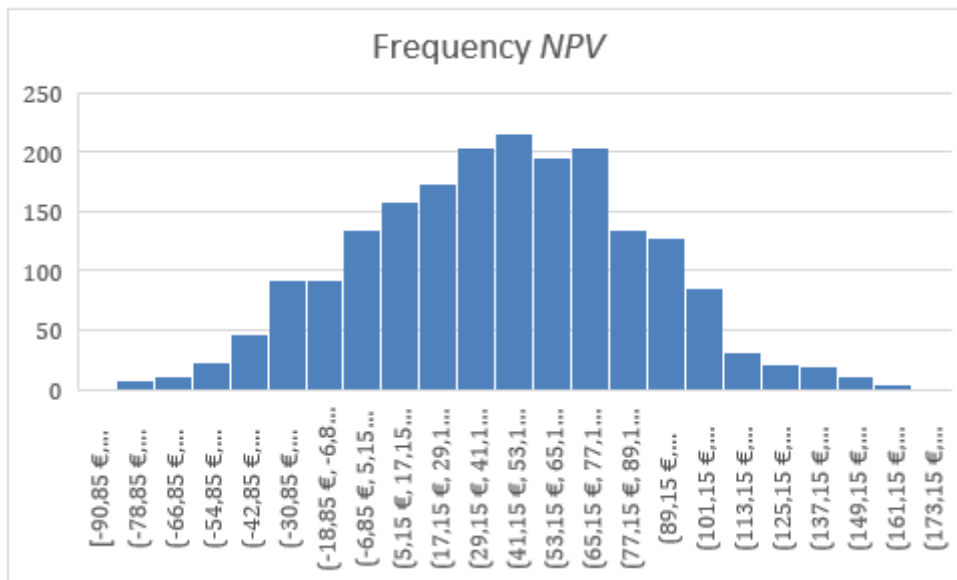


Figure 3. Frequency distribution of NPVs for the human case

b) Case 2 with initial investment of 800€ and 2,000 simulations:

- Arithmetic Mean of NPVs: 55,32€
- Shortfall Probability ( $NPV < 0$ ): 21,1%

The arithmetic mean remains above the arithmetic mean of case 1, but the shortfall probability indicates a disadvantage of the use of robots.

The graph (figure 4) emphasizes that the dispersion of NPVs is higher and the frequency of negative events increases.

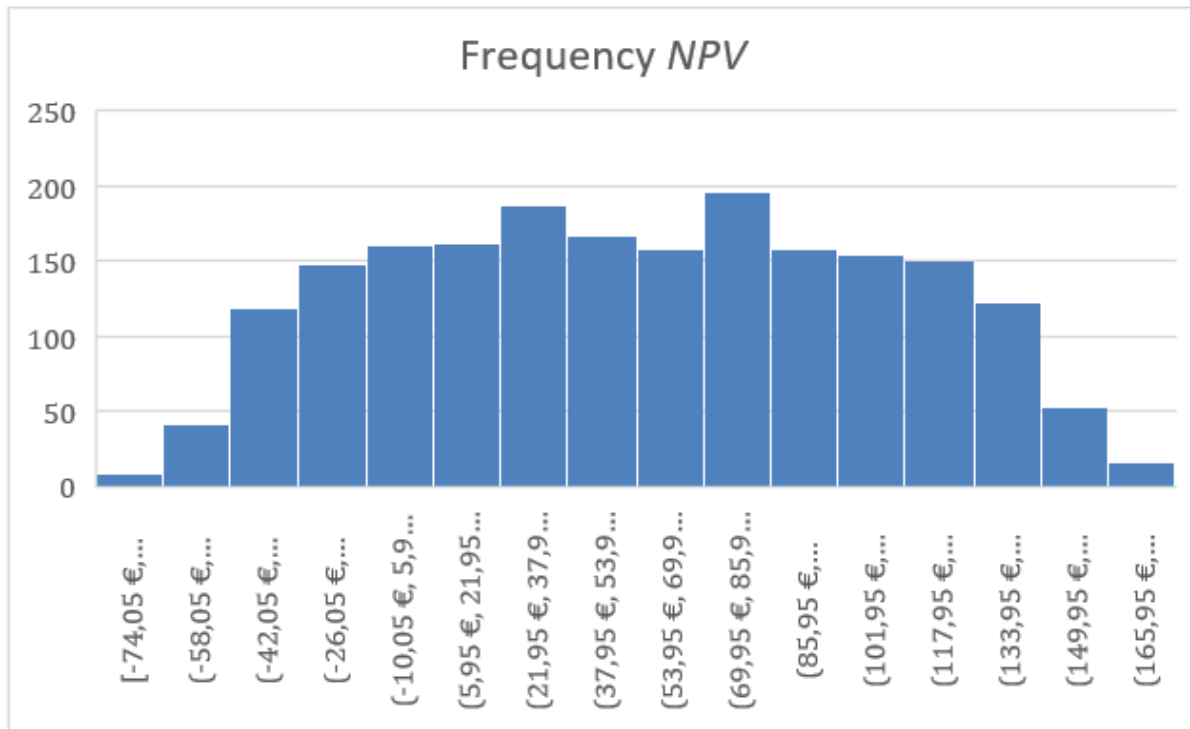


Figure 4. Frequency distribution of NPVs for the robot case

## RESULTS

The application of mathematical models helps increase awareness of the risks taken or avoided in a company, but it does not accurately express predictions about the future. Attention to ESG aspects is now a necessity that cannot be ignored. The implications of environmental risks for example, even if they do not impact the timing of investment projects, can reveal serious consequences that translate into higher costs to mitigate the effects caused. (Ekins, Zenghelis, 2021).

Such risks influence the implementation of sustainable investment projects, considering the efforts of environmental remediation, which require the use of the Monte Carlo simulation method to evaluate the effects of risk and quantify the probability of shortfall.

The objective of this methodology is to: (Berk, DeMarzo, 2011).

- Assess risk more accurately: Integrating Monte Carlo simulations allows you to quantify the probability of negative events and evaluate the impact of these events on the value of your investment.
- Improve performance evaluation: Considering the probability distribution of cash flows allows you to obtain a more realistic estimate of the expected return, taking into account the potential variability of the results.
- Make more informed investment decisions: A comprehensive risk analysis enables investors to make more informed decisions and choose sustainable investments that best suit their risk

profile and investment objectives.

The absence of a predictive component for environmental risks in traditional mathematical models often leads to their rejection. This paper addresses this issue by highlighting two crucial aspects:

1. Overcoming the computation disadvantage of sustainable measures.

Traditional financial models, primarily focused on returns, fail to fully capture the value of sustainable measures as they overlook the positive impact such measures can have on reducing environmental risks and, consequently, on the company's future financial performance. To address this issue, it is necessary to integrate environmental risks into valuation models, allowing for a more comprehensive and realistic view of the benefits of sustainable measures.

2. Creating an effective risk management system.

Current corporate governance rules, while promoting risk management, often do not translate into concrete actions within companies. Free cash flow analysis, commonly used in investment decisions, does not adequately account for environmental risks, which can have a significant impact on future profitability. For this reason, it is crucial to implement a robust corporate risk management system that integrates environmental risks into daily decision-making processes.

## CONCLUSION

Sustainable financial products represent more than half of the total inflow into European investment products, reflecting a global trend. (Morningstar, 2021)

Despite numerous initiatives, there is still no clear definition within financial markets that identifies an investment product as sustainable in a clear and systematic way. "Sustainable investments" encompass a variety of asset classes selected considering environmental, social, and governance (ESG) factors.

The adoption of sustainable measures in companies presents them with the challenge of simultaneously deriving income benefits. The long-term cost factors resulting from sustainable actions jeopardize a company's existence in a dual manner. On one hand, if competitors forego sustainable measures, they might be more competitive in the market in terms of price. On the other hand, another scenario brings forth reputational benefits stemming from the adoption of responsible governance. (Brzeszczynski, Graham, 2014).

This often leads to an excessive emphasis on moral aspects or legal and tax restrictions related to sustainable behavior.

Consequently, investors face a complex and confusing situation when evaluating the sustainability of an investment product. This lack of transparency requires financial knowledge of sustainable investments that goes beyond basic financial literacy to be well-informed (Filippini, et al., 2024).

Quantitative investment decisions are usually based on two conflicting objectives of return and risk. A general financial belief would state that higher returns generally involve higher risks and vice versa. Investments in sustainability should also be measured against these two objectives when compared to alternatives that might be less sustainable or not sustainable at all. (Schittenhelm, 2023)

In this regard, it has been interesting to observe that there are various reasons why risk measurement is often neglected. A simple initial reason is that evaluation is not straightforward and is often not accepted. This is especially true because different risk measures easily lead to different evaluations.

Furthermore, it is possible that the company's management is more interested in short-term success and that the likelihood of a risky event is low. Additionally, management remuneration systems often do not take into account the risk assumed. Ultimately, both investors and management have little interest in transparency because it could have negative consequences on stock price performance (Schittenhelm, 2023).

According to the authors, however, the goal should be to persuade companies, based on a considerable amount of useful information and proven methods, to adopt a "positive" behavior voluntarily and due to measurable benefits.

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# CHANGES IN THE PUBLIC POLICY OF CULTURAL AND CREATIVE INDUSTRIES AND IN THE CULTURAL BEHAVIOUR CAUSED BY COVID 19 PANDEMIC IN THE SLOVAK REPUBLIC

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## ABSTRACT

The COVID 19 pandemic has significant impact on the economic, social and environmental development of the world. To the most affected areas belong cultural and creative industries, where the COVID 19 enhanced the great digital transformation on the one hand, but also the financial constraints on the other hand. Both stimulated the significant changes in the implemented public policies. The paper identifies the challenges raised by the COVID 19 pandemic in the public policy of cultural and creative industries and in behavior of cultural customers on the example of the Slovak Republic and to link them with the already implemented measures by the state as the respond of public policy. They can be seen as a new strategical approach to the development of cultural and creative industries, which the pandemic identified as one of the key weaknesses in the previous policy of the cultural and creative industries.

*Keywords: policy of cultural and creative industries, customers, COVID 19 pandemic, challenges*

## INTRODUCTION

Cultural and creative industries have become integral to economic development policies worldwide over the past two decades. Central to the creative economy are arts and culture, fostering innovation, design, and entrepreneurship. While these industries can drive economic growth, create sustainable jobs, and enhance regional appeal, they have been particularly vulnerable to the COVID-19 pandemic, especially those reliant on in-person interactions.

This paper examines the challenges posed by COVID-19 on public policy and cultural consumer behavior in Slovakia, aligning them with existing state responses. It reviews international measures



addressing the pandemic's impact on cultural industries, categorizes key policy challenges in Slovakia, and presents findings from a 2021 survey on virtual cultural engagement. Additionally, it outlines the Ministry of Culture's responses to pandemic challenges.

Offering insights into policy shifts during and post-pandemic in Slovakia, this article sheds light on longstanding issues within cultural policy. It serves as a reference for countries facing similar challenges, particularly in Eastern Europe, and underscores the need for greater recognition of the economic and societal importance of cultural and creative industries.

## **LITERATURE REVIEW**

Art, culture and the sciences represent an important part of the wealth of the society. From the economic point of view, they belong to the cultural and creative industries, which have their origin in individual creativity, skill and talent and have a potential for wealth and job creation through the generation and exploitation of intellectual property (DCMS, 2001). They include various areas as architecture, fashion, design, advertising, crafts, art market, antiques market, film, video, computer games, music, television, radio, book publishing, software, newspaper and magazine publishing and performing arts (DCMS, 2001; Hesmondhalgh, 2007; Thorsby, 2001).

The development of the cultural and creative industries requires educated consumers, and an educated labour force, that is, people who have a high level of cultural and aesthetic values. Creativity of these people is based on originality, new and useful ideas and thought, and their individuality (Costa Seixas, Roldao, 2009, Borrup, 2010). It presents the potential for original, innovative and new solution to various problems. To develop the creativity, the effective combination of specific resources is needed as intellectual abilities (the synthetic, analytical and practical skills), knowledge, styles of thinking (how to deploy the skills), personality (willingness to overcome obstacles, willingness to take sensible risks, willingness to tolerate ambiguity, and self-efficiency), motivation, and supportive and rewarding of creative ideas environment (Sternberg, 2009). By other words, these industries are developing where the environment is friendly, open, and free, and that is why it fosters freedom, equality between people, and strengthening of cultural and aesthetic perceptions. The increasing demand for diverse content from both diverse audiences and diverse content aggregators such as broadcasters fuels the creative talent of diverse groups. A diverse creative workforce working collaboratively has therefore a great opportunity to make products to meet this demand. (Vaňová, et al., 2016).

However, from the beginning of 2020 and during next two years, the pandemic COVID 19 changed totally the features of environment, where the creative labour force could realise their activities. The implemented protected measures worldwide strictly eliminated the social contacts and the human freedom. The cultural and creative industries were one of the main effected sectors of world economy.

It is clear that the COVID 19 pandemic and the accompanying lockdowns have had a direct financial impact on the cultural and creative industries. Performances by musical artists have been cancelled due to closed venues and social distancing (Khlystova et al., 2022). Theatres, museums and libraries were closed, although some later tried to start functioning using digital technologies, but this was difficult for small cultural institutions to do (Vitálišová et al., 2021; Khlystova et al., 2022; Snowball, Gouws, 2023). Restrictions had a significant impact on the financial results of all kinds of cultural institutions. The film industry could not create and cinemas did not work, although, on the other hand, people spent more time in front of televisions or using subscription videos like Netflix. For example, China's cultural and creative industries, the largest economy and the first country to face the pandemic, saw a 14 percent drop in revenue in the first quarter of 2020 but recorded a growth of 2.2 percent at the end of the year (UNESCO, 2021).

It is no coincidence that in the case of China, even growth was recorded later, because after the first wave of COVID 19, central and local governments in most countries of the world offered various business support plans, which were not only focused on the cultural and creative industries but of course were also important for this sector. For example, in Lithuania, the municipalities of the two largest cities proposed the following financial assistance measures in their plans: waiver of rent tax, real estate tax, reduction of communal fees and the like (Dvorak, 2021). In Germany, direct and indirect support measures for the cultural and creative industries sector were also used: grants and loans; credit aid to preserve liquidity; specific rental agreements due to rent debts for studios, rehearsal rooms, and clubs; tax relief measures with options for deferring tax liabilities and reducing tax advance payments; short-time work allowances as an instrument for bigger and smaller cultural institutions and cultural enterprises (Dümcke, 2021). Dümcke (2021) noted that it is important that financial support measures were used from the beginning of the pandemic, and not retrospectively. Wall-Andrews et al. (2021) noted that due to the specific nature of the cultural and creative industries sector, as many people working in the sector are self-employed or perform contract work as freelancers, governments needed to find measures to protect this category of workers. For example, the Canadian government has two strategies: lowering the criteria and qualifying conditions of specific social protection schemes; the interest-free Canada Emergency Business Account loan

program. To qualify for the loan, the company is required to have paid salaries of at least \$50,000 the previous year (Wall-Andrews et al., 2021)

The impact of the measures resulted in the progressive digital transformation of the cultural and creative industries, especially in a form of innovations in service delivery methods, direct customer interactions, and the proliferation of smart products that enable real-time monitoring and updates (Mergel, Edelmann, Haug, 2019) and establishing virtual culture as a replacement of live cultural events and performances. In the cultural sphere, the effects of digital transformation are evident in fostering the imaginative engagement with spaces and objects, enabling innovative forms of participation, and extracting new forms of value from previously inaccessible archives (Arrigoni, Schofield, Pisanty, 2020). Novel technologies have revolutionized cultural services by challenging and transcending conventional cultural norms within product categories. They introduce cultural meanings that were previously untapped by incumbents, resonating with end customers (Pedeliento et al., 2018). The impacts of digital transformation on cultural institutions go beyond just empowering customers. They also involve encouraging staff to think beyond their immediate service responsibilities, fostering exploration of new and more efficient work methods, and supporting continuous improvement among employees. This transformation promotes a customer-centric mindset and the development of organizational culture (Curtis, 2018).

Of course, as the pandemic progressed, the culture and creative industries sector's product consumption habits changed. It is noted that at the beginning it was a panicked behavior, as consumers needed to cancel purchased tickets to theatres and events, and tourist trips (Billore, Anisimova, 2021; Hu et al., 2021; Khlystova et al., 2022). Habits regarding social distancing and wearing masks also changed, for example, in the beginning, it was necessary to wear a mask when visiting museums and theatres. This was done to ensure quality and safe services for visitors (Burksiene et al., 2022). In some places, registration was required, for example at the Krakow Opera House, in Poland, all seats were not sold in theatres to maintain social distance between theatregoers. In addition, a number of events have moved online and remote concerts and exhibitions have been held (Davies, 2021; Rentschler, Lee, 2021; Khlystova et al., 2022; Mohanty et al., 2022).

## **METHODOLOGY**

The aim of the paper is to identify the challenges raised by the COVID 19 pandemic in the public policy of cultural and creative industries and in behavior of cultural customers on the example of the

Slovak Republic and to link them with the already implemented measures by the state as the respond of public policy.

The first part of the paper, the literature review is focused on identification of the main challenges raised by the COVID 19 pandemic specially focused on the cultural and creative industries based on the international reports and literature resources.

The paper then outlined the policy response to the COVID-19 pandemic in Slovakia, detailing the implemented measures and financial support extended to cultural and creative industry stakeholders. It identified key challenges faced by Slovak cultural policy due to the pandemic, drawing on analytical documents from the Ministry of Culture and Ministry of Finance, as well as insights from structural interviews with representatives of the Institute of Cultural Policy at the Ministry of Culture..

The second part of analysis presents the research results of the questionnaire survey among the cultural customers in the Slovakia conducted in 2021, distributed electronically. The aim of the survey was to evaluated interest of customers in virtual culture as a possible full replacement of live culture. The survey includes the responses of 348 respondents (35,63 % men; 63,51 % women; 0,86% without answer) randomly selected coming from the Slovak Republic. The respondents were randomly selected. The other characteristics of the respondents present table 1.

| Age           | Number of respondents | %       | Education                                       | Number of respondents | %       |
|---------------|-----------------------|---------|---|-----------------------|---------|
| 18 - 30 years | 223                   | 64,64%  | Grammar school                                  | 12                    | 3,48%   |
| 31 - 40 years | 8                     | 2,32%   | Secondary education without high school diploma | 21                    | 6,09%   |
| 41 - 50 years | 69                    | 20,00%  | Graduated                                       | 253                   | 73,33%  |
| 51 - 60 years | 35                    | 10,14%  | University educated                             | 58                    | 16,81%  |
| 60 + years    | 8                     | 2,32%   |   |                       |         |
| No answer     | 5                     | 1,45%   | No answer                                       | 4                     | 1,16%   |
| Total         | 348                   | 100,87% | Total   | 348                   | 100,87% |

Table 1. Respondents by age and education

The questionnaire used in the survey included 23 questions mapping the behavior of cultural customers before the COVID 19 pandemic and during the COVID 19 pandemic. The questions were scaling, open or combined. For the paper we selected only a few of them, which were processed by Excel and SPSS and with application of mathematical and statistical methods. Beside the basic statistical methods, the behavior of cultural customers in Slovakia during the COVID 19 pandemic in

connection with the use of virtual culture is verified in the paper through the regression analysis implemented and the Pearson correlation coefficient at the 5% level of significance ( $\alpha = 0.05$ ).

The conclusions of the paper summarize the main challenges raised during pandemic period and identified the implemented measures of the Ministry of Culture as a respond to the them in 2022 and 2023.

## RESEARCH RESULTS

In the Slovak Republic, the Ministry of Culture oversees cultural policy and creative industries, including heritage preservation, arts, copyright, and national culture promotion. It manages 36 cultural organizations centrally and coordinates activities of 159 others at the regional level. Before the COVID-19 pandemic, Slovakia allocated about 0.76% of GDP for culture, with 1.83% of public expenditure dedicated to cultural and creative industries. In 2018, total public spending on culture reached €645.8 million, with the majority supporting cultural services provided by institutions like theatres and museums. Local and regional governments also play a significant role, contributing 40% of culture financing. However, the pandemic has prompted changes in support for cultural and creative industries, explored further in the following section.

### *COVID 19 pandemic in the cultural and creative industries in the Slovak*

Slovakia swiftly responded to COVID-19, implementing a state of emergency from March to June 2020, with cultural events halted and only essential businesses operating. Despite gradual reopenings, restrictions persisted, with controlled measures in high-risk areas during the second wave. Since August 2020, the cultural and creative sectors have faced financial strain and isolation's emotional toll. However, this adversity spurred innovation, with institutions and artists offering diverse online activities, reaching audiences at home.

However, even as these innovations partially substituted physical engagements in the creative and cultural realms, the representatives of these industries experienced a staggering 80% decline in sales during the first half of 2020 alone. This scenario deteriorated further in the latter half of the year (Press release of the President of SR, 2020). The economic ramifications of COVID 19 on the cultural and creative industries, though profound, lacked official and comprehensive data for analysis. Experts from the Institute of Cultural Policy envisage a return to normalcy not before a two-year period. The Institute of Financial Policy (Pažický, Žudel, 2020) foresees a pandemic-induced 6.7% recession in 2020, leading to a decrease of around 38,000 jobs, accompanied by a subdued inflation of 1.7%.

Gauging the holistic impact of COVID 19 is intricate, given the dynamic nature of the situation and the unpredictable duration of restrictive measures (Muchová, 2020).

The "We Stand by Culture" study surveyed 470 cultural and creative industry representatives during the initial COVID-19 lockdown, revealing varied damages. Individual losses ranged from €1,400 to €2,400, and for entities, €3,100 to €27,200. Respondents advocated for lump-sum financial compensation covering minimum state aid, partial fixed cost coverage, and flexible subsidy adjustments (Bieščad, Svorenčík, Borošová, 2020).

Public cultural and creative organizations faced COVID-19 impacts, but received timely compensation. Additional state budget resources supported institutions like theatres, museums, galleries, and cultural-educational entities, mitigating around 17.4% of their expenses (Ministry of Culture, Ministry of Finance of the Slovak Republic, 2020).

The data from the Institute of Cultural Policy and the aforementioned research validated that those independent of state and public funding were hardest hit. These actors, largely reliant on sporadic subsidies and their own activities (Trexima, 2020).

Financial assistance for those in the cultural and creative sectors occurred in two phases. Initially, the Ministry of Labour, Social Affairs and Family of the Slovak Republic offered a "first aid kit." Later, the Ministry of Culture of the Slovak Republic provided more targeted support based on survey results from industry representatives, refining the assistance mechanisms. The initial measures were part of the First Aid Kit overseen by the Ministry of Labor, Social Affairs, and Family, aimed at safeguarding employment and self-employment during the pandemic. However, stringent rules inadvertently excluded entities with multiple revenue sources. In response to industry backlash, the Ministry of Culture initiated a supporting scheme and reformed these rules to address the aftermath of the second pandemic wave.

During the second wave, the Ministry of Culture conducted a survey to gauge the actual impact on companies, individuals, and non-profits in the cultural and creative sectors. Results were sobering: 79% of companies saw over a 50% drop in income compared to 2019, with nearly half experiencing losses exceeding 80%. Collectively, these sectors lost over €630 million monthly. Individuals and non-profits also suffered significant income reductions.

To address these challenges, the Ministry introduced expanded subsidies and revised rules under Act no. 299/2020 Coll. These measures aim to provide financial aid for uncovered fixed costs and improve

accessibility for industry members. Ongoing negotiations reflect a commitment to assisting non-profits, with plans for further subsidies to mitigate revenue drops and cover costs incurred during 2020. However, challenges remain, including criticism, bureaucratic hurdles, and delays, casting uncertainty on the efficacy of these measures.

The total support for the cultural organisations established by Ministry of Culture presented table 2.

| Purpose   | Source  | Total amount in € |
|---|---|-------------------|
| Support of employment in the primary musical schools            | Ministry of Education, Science, Research and Sport and Ministry of Labour, Social Affairs and Family. | 16 627 593,00     |
| Transfer of COVID contribution for 31 established organisations | Ministry of Culture   | 6 936 189,00      |
| Loss of income  | Ministry of Culture   | 2 780 764,00      |
| Transfer of additional COVID contributions for RTVS and TASR    | Ministry of Culture   | 2 255 508,00      |
| The total support   |   | 28 600 054,00     |

Table 2. *Support for the cultural organisations established by Ministry of Culture in the Slovak Republic*

The total support for the cultural organisations which are beyond the establishment scope of the Ministry of Culture presented table 3.

| Purpose  | Source   | Total amount in € |
|--|--|-------------------|
| First Aid, First Aid +, First Aid++  | Ministry of Labour, Social Affairs and Family        | 65 951 171,41     |
| COVID subsidies for single person – limited liability company  | Ministry of Culture                                  | 15 673 083,00     |
| Fine Arts Fund   | Fund for support arts                                | 8 574 500,00      |
| Subsidy for micro, small and medium enterprises operating in the field of culture and creative industry  | Ministry of Economy                                  | 7 610 506,00      |
| COVID subsidies for non-profit organizations active in culture   | Ministry of Culture                                  | 5 901 474,00      |
| COVID subsidy for professionals working in cultural and creative industries  | Ministry of Culture                                  | 3 448 000,00      |
| Special call 1/20  | Fund for support arts                                | 1 122 893,00      |
| Extraordinary COVID transfer of Ministry of Culture to audiovisual fond for support the distribution of audiovisual works and the attendance and operation of cinemas. | Audiovisual Fund                                     | 1 000 000,00      |
| COVID help for technical and support professions in parallel   | Ministry of Culture                                  | 853 200,00        |
| Call 3/2020  | Audiovisual Fund                                     | 612 900,00        |
| Call 9/2020  | Audiovisual Fund                                     | 539 800,00        |
| Special call 1/2020  | Fund for the support of cultural national minorities | 448 812,00        |
|  | Ministry of Transport                                | 57 573,65         |
| The total support  |  | 111 793 913,06    |

Table 3. *Support for the cultural organisations beyond the establishment scope of the Ministry of Culture in the Slovak Republic*

COVID-19 has exposed vulnerabilities in the cultural and creative industries but also highlighted opportunities for strategic improvement (Vitálišová, Vaňová, Borseková et al., 2020). A clear definition of these sectors and a consolidated database of their representatives are recommended for collective development. Despite their absence from the Slovak Recovery Plan, these industries are crucial for societal development. Research by Vitálišová et al. (2021) indicates that women and individuals in one-member households are the most vulnerable groups during the pandemic, necessitating targeted support measures. While the Ministry of Culture has initiated collaborative efforts to address the challenges, their efficacy is uncertain due to various obstacles.

#### *Changes in cultural behaviour and cultural offer during COVID 19*

During the COVID-19 pandemic, live cultural events were strictly restricted, prompting cultural institutions to explore virtual alternatives, both free and paid. In Slovakia, major state cultural institutions and numerous private and non-profit actors offered virtual cultural events. Research evaluating cultural customer views on virtual culture found that while 74.7% were aware of it, only 36.8% actually engaged with it, indicating that for over 60% of respondents, virtual events did not adequately replace live ones.

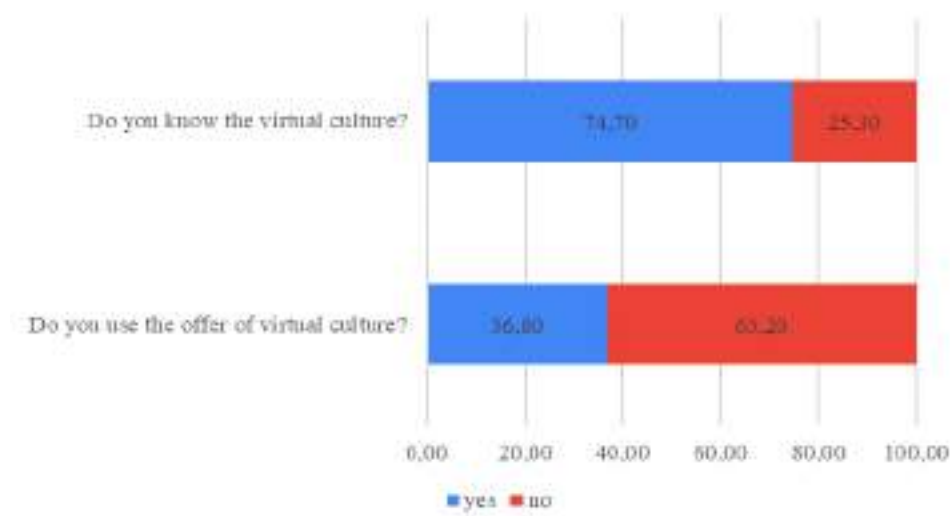


Figure 1. *The awareness on virtual culture*

Control questions confirmed earlier findings. Respondents were asked about their frequency of using virtual culture offerings before and during the COVID-19 pandemic. During the pandemic, 59.80% did not utilize virtual culture. Comparing responses on cultural event attendance before and during COVID-19, positive answers significantly decreased across all options during the pandemic.



| How many times during month did you attend some cultural event before COVID 19 pandemic? |        |     | How many times did you use the virtual culture? |        |        |
|--|--------|-----|---|--------|--------|
| less than 2 times  | 56,61  | 197 | 1 - 5 times                                     | 33,60  | 117    |
| 3 - 5 times  | 27,01  | 94  | 6 - 10 times                                    | 4,60   | 16     |
| 6 - 10 times   | 4,89   | 17  | 11 - 20 times                                   | 0,90   | 3      |
| more than 10 times   | 1,44   | 5   | More than 20 times                              | 1,10   | 4      |
| I did not attend the cultural events   | 10,06  | 35  | No when   | 59,80  | 208    |
| Total  | 100,00 | 348 | Total   | 100,00 | 348,00 |

Table 4. Attendance of cultural events before and during COVID 19 pandemic

We explored changes in cultural behavior by examining which cultural institutions or events respondents visited before and during the COVID-19 pandemic. They could select from predefined options or add their own answers (Table 5).

| Respondents                               | Before COVID | During COVID |
|---|--------------|--------------|
| Lectures                                  |              | 94           |
| Concerts                                  | 12           | 90           |
| Theatre performance                       | 154          | 28           |
| No one                                    | 24           | 27           |
| Discussions                               |              | 27           |
| Museum versus virtual museum              | 107          | 20           |
| Gallery versus virtual gallery/exhibition | 67           | 10           |
| Others (musical, concert, virtual Paris)  | 8            | 6            |
| Cinema                                    | 282          |              |
| Castles, manor houses                     | 8            |              |
| Total answers                             | 662          | 302          |

Table 5. The cultural institutions/events visited by the respondents before and during COVID 19

The COVID-19 pandemic significantly reduced interest in cultural institutions and events, with responses dropping by more than half compared to pre-pandemic levels. As a response, alternative cultural events like lectures, concerts, and discussions gained preference.

Respondents rated virtual cultural events on a scale from 1 to 5, with an average score of 2.95, indicating medium quality. Comparing virtual events to live cultural experiences, most respondents felt that virtual culture was either the same or inferior in quality (Figure 2).

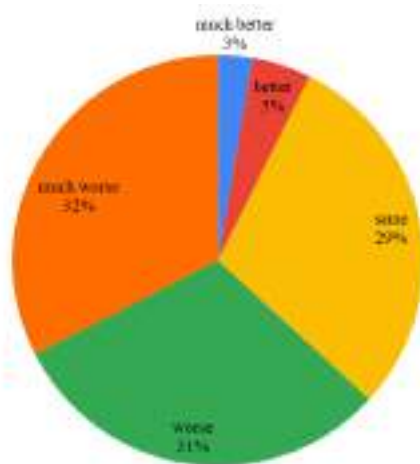


Figure 2. *The quality of virtual culture in comparison to live culture*

The last researched issue was to identify the consequences of live cultural events prohibition during COVID 19 pandemic for the customers. From 321 answers, 52,65 % respondents indicated as problem issues: the loss of social relations and contacts, 19 % respondents - loss of motivation, 4,36 % respondents - the loss of income. 23,99 % respondents did not notice any negative consequence of live cultural events prohibition during COVID 19 pandemic.

The behaviour of cultural customers in Slovakia in relation to the use of virtual culture can be influenced by a number of factors. These factors can be related, on the one hand, to the availability of communication technologies and IT skills of various groups of residents and, on the other hand, to the very relationship of cultural customers to culture. As part of the research results analysis, we examined which factors and to what extent influenced the cultural behaviour of customers in Slovakia during the COVID 19 pandemic.

We verified the influence on the behaviour of cultural customers in Slovakia during the COVID 19 pandemic in relation to the use of virtual culture through the regression analysis implemented and the Pearson's correlation coefficient at the 5% significance level of significance ( $\alpha = 0.05$ ). Research has shown that the use of virtual culture influences the most the attitude of cultural customers toward culture ( $r = 0.27$ ), which is also related to the frequency of visits to cultural institutions ( $r = 0.13$ ) and the funds spent on culture before the COVID 19 pandemic ( $r = 0.20$ ). Customers who have a positive attitude toward culture and before the COVID 19 pandemic visited cultural institutions more often, used the offer of virtual culture earlier and more often than customers who did not "live" culturally before the pandemic. Cultural customers with a higher average monthly income spent more money on culture before the COVID 19 pandemic. Surprisingly, the research showed a negative relationship between the use of virtual culture offers during the COVID 19 pandemic and whether cultural

consumers were guided to culture in childhood ( $r = -0.057$ ) or led and guided their children to culture ( $r = -0.027$ ). This also confirmed the relationship between the attitude toward culture and whether cultural customers were guided toward culture in childhood. A very weak negative dependence was also manifested here. However, this would mean that if we lead our children to culture in childhood, on the contrary, their attitude toward culture in adulthood will be more negative than positive. The research also showed a very weak positive correlation between the use of the virtual culture offer and age ( $r = 0.035$ ) and the level of education ( $r = 0.065$ ). However, it should be added that only 27 (0.19 %) out of the 141 Slovak cities offered virtual culture during the COVID 19 pandemic. In this period, the offer of virtual culture of cities was supplemented directly by cultural institutions of mainly national, but also regional, and local importance. Virtual culture in this period mainly took the form of music concerts, theatre performances, exhibitions, and reading books.

## CONCLUSION

The COVID 19 pandemic highlighted in the Slovak Republic the long-term problems in the policy of the cultural and creative industries. To the most serious belong unclear definition of these industries, those was reflected in lack of relevant statistical data describing the situation in the cultural and creative industries. The absence of a strategic approach to the development of cultural and creative industries caused also the weak financial support, often not adequately aimed and used. Even the COVID 19 had a very negative impact on the sector of the creative industry and culture, it brings also the inevitable need to solve these challenges.

Based on the activities and analysis of the Institute of Cultural Policy during COVID 19 pandemic, there were implemented gradually the steps to manage the cultural and creative industries more strategically. The new methodology for the division of cultural policies and economic indicators and the set of aims and measurable indicators for cultural policy in Slovakia were settled. Due to the great vulnerability of the cultural and creative sectors' representatives, the new financial support through the special calls to replace their income was introduced.

The pandemic influenced significantly also the behaviour of cultural customer in the Slovakia. Even the cultural institutions looked for the possibilities how to come closer to customers, the virtual culture had not been seen as an adequate replacement for the live cultural experience.

Although, the research findings are oriented on the Slovak Republic, it can be used as a case study example for countries with the similar economic and social conditions as well as for less-developed countries where the value of the cultural and creative industries is underrated. We realise, that the

focus one country can be perceived as a limitation of the research. On the other, it can be seen as a pilot research that can be a starting point for the comparative research of the topic internationally. As the next step in the research, it would be very beneficially to investigate also the efficiency of the implemented measures and if their framework really met the expectations of the cultural and creative industries' representatives and settled aims of the policy of cultural and creative industries.

By providing these implications, the study not only contributes to academic discourse but also offers actionable insights for policymakers and practitioners aiming to support cultural and creative industries in the wake of global crises.

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## KEY FEATURES FOR SUSTAINABLE DEVELOPMENT STRATEGY OF THE POĽANA BIOSPHERE RESERVE

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### ABSTRACT

Current global challenges highlight the need for smart use of limited resources and sustainable development of territories. Biosphere reserves as model territories represent an environment where biodiversity conservation with sustainable development is essential. These territories, based on the harmony of man and nature, should be smart managed through strategic spatial planning in accordance with the principles of sustainable development. The aim of the paper is to evaluate the current approach to the strategic planning of the biosphere reserves and on the example of the Poľana Biosphere Reserve to develop the key recommendations for its sustainable development strategy. The case study of Poľana Biosphere Reserve includes the SWOT analysis of the partial territorial potentials, which is supplemented by the assessment of the quality of life on its territory by its inhabitants through a questionnaire. The discussion and conclusion present a TOWS synthesis of the results of the analyses, based on which, together with examples of good practice, are formulated the key recommendations for the development strategy of the Poľana Biosphere Reserve.

*Keywords: sustainable development, territory potential, Poľana Biosphere Reserve*

### INTRODUCTION

Biosphere reserve (BR) as an internationally recognized territory within the framework of UNESCO's Man and the Biosphere (MAB) programme, consisting of terrestrial, marine and coastal ecosystems and their combination, is devoted to strengthening sustainable development and supporting local solutions to global challenges, through connecting and preserving biodiversity with its sustainable use and development (UNESCO, 2022). The task is not only to preserve the natural heritage of the territory, but also cultural components in the form of traditions and a lifestyle of the people in the given territory, or their behaviour and socialization within the society belonging to this territory. (Lepeška, 2012; UNESCO, 2022). The development of BR is based on the participative approach, so the

local community as well as environment should benefit from the status of biosphere reserve (UNESCO, 2021; Turečková and Nevima, 2019).

However, the issue of sustainable development of BR is not paid adequate attention. The authors (Batisse, 1997; Ishwaran et. al, 2008; Ishwaran, 2012; König et al., 2022; Reed and Price, 2020; Bridgewater, 2002; UNESCO, 1996; UNESCO, 2015) stress the need of sustainable development within the transitional zone of BR, but there are less studies focusing on the strategical approach and its practical implementation (Yazdandoost, 2019; Van Cuong et. al, 2017; Gehrlein et. al., 2019; Jungmeier et. al, 2011; Mai, 2012; Vaňová et. al, 2023; Engelbauer, 2023). That is why the aim of the paper is to evaluate the current approach to the strategic planning of the biosphere reserves and on the example of the Polana Biosphere Reserve to develop the key recommendations for its sustainable development strategy.

The paper presents partial results of the project APVV-20-0108 Implementation of Agenda 2030 through biosphere reserves.

## **1. BIOSPHERE RESERVE AND ITS DEVELOPMENT FROM DIFFERENT PERSPECTIVES**

The development of a BR reflects the specifics of spatial development (Maier, 2012; Vaňová 2006) as an economic and a social process that aims to create a viable and productive territory and build the long-term competitive advantage based on the use of spatial potential. Moreover, it also reflects the political, social needs of the community of the territory and the development of employment opportunities, equality, justice, participation and independence in the territory. Vitálišová, et. al (2021) support this approach as suitable for application in BRs and add that "their development will never be able to be based on progressive industrial development but should be based on the use of soft factors of development in combination with the exceptional natural potential."

The BR development is based on exploitation of the endogenous potential of the BR in line with the endogenous growth theory (Arestis et. al, 2007; Bharadwaj et. al, 2005; (Ivaničková in Gerulová, Kováč, 2010; Hontyová and Lisý, 1999; Svidroňová and Mikuš, 2014). Moreover, BRs can be seen also as objects of the theory of learning regions, in which knowledge and the capacity to learn and innovate are key factors for development. (Blažek and Uhlíř, 2021).

Sustainable development of the BR must reflect four functions which BR fulfill. They include a protection of biodiversity, ecosystems, and the landscape; affecting the social or cultural system; a support of science, research, and education with an emphasis on building partnerships at the local, regional and international level, (ŠOPSR, 2022; UNESCO, 2015; UNESCO, 2022; Vitálišová et. al, 2022;



Turečková et al., 2023; Sýkorová, 2023) and supporting mitigation and adaptation to climate change and other aspects of global environmental change (Špulerová et al., 2023).

Strategic planning in territories seeks to coordinate activities in the territory and to respect existing interest groups, aligning individual objectives. It is desirable to apply a demand-oriented (marketing) approach, which complements the traditional approach by identifying the needs of target groups, creating conditions for the effective use of the territory, the operation of the functions and activities of the territory based on the collectively set objectives (Vitálišová et al., 2017, Vaňová, 2006). To achieve a higher level of success in strategic planning is necessary the adapting planning cycles to the needs of individual companies, territories, stakeholders, citizens, etc., by introducing a strategic performance management system, or by integrating human resources systems into the strategic plan. (Dye and Sibony, 2007). This approach is possible applied also in the BRs, where the rules given by the Technical Guidelines for Biosphere Reserves, UNESCO support this approach (UNESCO, 2021). The strategy of the BR should cover a multi-year period, be formulated through a participatory process, and adopted by the relevant decision-making body. UNESCO gives several reasons why a strategy for a biosphere reserve is necessary, e. g. coordination of activities, funding for the national government or potential donors; in-depth engagement with stakeholders and meeting their expectations, etc.

In the Slovak Republic, the current valid document that should be followed by the BRs is an Action Plan for the implementation of the UNESCO MAB Programme and the World Network of Biosphere Reserves in the Slovak Republic for the years 2018 to 2025, (ŠOPSR, 2022; Et. al., 2014; Ministry of the Environment; Rojíková, Orviský and Mihók, 2022; Urban, Miňová, 2024). To the other regulations that influence the strategic planning of BRs include spatial-planning and environmental programs and plans (the Territorial Ecological Stability System, Local Territorial Ecological Stability System, Regional Territorial Ecological Stability System, Landscape-ecological Plan, Territorial Planning of self-governing regions and Municipalities, District Development Action Plan, Visitors' Regulations of Protected Areas, and Programmes for Economic and Social Development of Municipalities and the Region). At the national level, the strategical planning of BRs have to adapt to the Habitats/Birds Directive, Management plan for Natura 2000 area, National Park Care Programme, Species Conservation Plan, National Programme Documents touching on nature and landscape conservation, biodiversity conservation and sustainable development, Concept of Nature and Landscape Conservation, Development Strategy of State Nature Conservation of the Slovak Republic, or Communication and Interpretation Strategies for Nature Conservation, Enviro-strategy 2030 and Enviro-strategies of self-governing regions.

The fact remains that the key strategic documents and concepts mentioned above focus primarily on nature conservation and the environment of the areas concerned. Some of them belong to the

landscape ecological plans, that regulate the rational forms of the use of renewable and non-renewable resources while preserving all the natural, aesthetic, and cultural values of the country (Belčáková, 2013). However, the attention pays to overall socio-economic development is very limited, by this way it abstracts also from the development function of the BRs. Although key documents in biosphere reserves can be complemented by sectoral documentation, i.e. programme documents in specific areas of life in the territory (especially in the field of tourism development, support for business activities with an emphasis on agriculture, food industry, crafts, culture, e.g. Rural Development Programme, Strategic Plan of the Common Agricultural Policy, documentation of individual sectors, e.g. Tourism Development Plan, Water Plan, etc.), their real consideration and interconnection with the priorities of biosphere reserves is questionable in the conditions of Slovakia (Vitálišová et. al, 2021). An exception is partly the Poľana Biosphere Reserve, which, through its representatives and the civic association Coordination Council Poľana Biosphere Reserve, has been actively participating since 2013 in the processes aimed at setting priorities and strategies for the development of municipalities within the Poľana Biosphere Reserve, which is why it is also an object of our research and a case of good practice in Slovakia.

Essential for the development of BRs is also a support of the government and the involvement of stakeholders falling directly within or outside the territory (Walk et al., 2019). The promoting the collection and integration of knowledge, expertise and experience from different stakeholders is a core of participative governance of the biosphere reserve and contribute to its development based on collaboration (Mehmood, et al., 2023). The added value of participative governance is also the appreciation of the importance of natural and cultural heritage for the development of the state, its policies, and its conservation, which contributes to ecological sustainability. Bridgewater (2002) states that "ultimately, information gained from scientific research must be incorporated into meaningful management practices, and management must have a greater influence on research priorities. Both research and management need to be people-centred and directly linked to policy formulation. Ecological sustainability is a human-created ideal and will only be achieved through appropriate human behaviour. Biosphere reserves, as special places for people and nature, are a key tool for developing a truly sustainable system."

## **2. DATA AND METHODOLOGY**

The presented case study of Poľana Biosphere Reserve is based on the secondary data from the official statistical sources and officially published information on the website of stakeholders, municipalities within the BR. The source of primary data were personal unstructured interviews with representatives of the Poľana BR (manager and coordinator of biosphere reserve) and local stakeholders (local

entrepreneurs, local action group, members of civil association Coordination Council of the BR Poľana). The second part of primary data set were results of the questionnaire survey among citizens of Poľana BR aimed at the evaluation of the quality of life in the BR Poľana. Data collection was conducted from November 2022 to August 2023. The research sample consisted of 101 respondents from 19 to 60+ years. The survey was conducted electronically via Qualtrics Survey, shared via email, social media as well as personally. The research sample is representative by gender (Chi-square test - Asymp. Sig. = 0,136) and age (Chi-square test - Asymp. Sig. = 0,051). To process the collected data, we used basic mathematical and statistical methods. For testing and data analysis we used the Friedman test and Wilcoxon test through SPSS program and MS Excel application.

To systematize the gain data and evaluate them we used a SWOT analysis. It assesses the external and internal environment based on the expert assessment of 10 experts from the practice (-2 - weakest point, greatest threat, +2 - strongest point, greatest opportunity) who have professional competence and direct relationship with the researched biosphere reserve and the results of the questionnaire survey. These results were subsequently transformed into the TOWS synthesis.

The object of our research is the Poľana BR, which was declared the second biosphere reserve in Slovakia. It is located in the central part of Slovakia. The Poľana Mountain, the best-preserved tertiary volcano in Slovakia, has been protected since 1981 as part of the Poľana Protected Landscape Area with its director, what is also the head of the biosphere reserve. In 1990, the protected area was included in the UNESCO World Network of Biosphere Reserves for its exceptionally high natural and landscape value. Spanning an area of 24,158.23 hectares, it comprises a core zone of 1,333 hectares, a buffer zone of 7,930 hectares, and a transition zone of 11,097 hectares. With its pinnacle reaching 1458 meters and its base resting at 460 meters above sea level, the landscape bears testimony to its volcanic origins, boasting a diverse array of geological features including imposing rock formations, cascading waterfalls, and rugged lava flows. Blanketing 85% of the reserve's expanse are diverse forests, ranging from oak to spruce, while over 86% of the land is under the stewardship of Forests Slovakia. This unique landscape serves as an ideal backdrop for ecotourism, characterized by a patchwork of cultivated fields interspersed with meadows and pastures, often bordered by thickets of willows, brambles, and wild cherries. Traditional agricultural practices such as hand scythe mowing and sheep grazing lend a timeless charm to the region, complemented by quaint wooden settlements featuring distinctive structures like house, haylofts, and farm buildings. Adding to the allure of the landscape are intricately painted wooden crosses and a rich tapestry of folk-art traditions, deeply rooted in the region's folklore and customs, embodying the spirit of the local community (Vitálišová, Vavrúšová, Piscová, 2023). It includes 13 cadastral territories - municipalities Detva, Dúbravy, Hriňová in Detva district; municipality Očová as part of the Zvolen district; municipalities Hrochoť, Ľubietová, Poniky,

Povrazník as part of the Banská Bystrica district and Čierny Balog, Hronec, Sihla, Strelníky, Valaská in the Brezno district (Urban, 2016)

### 3. RESULTS AND DISCUSSION

In the research results, we focused on the evaluation of the partial potentials of the Poľana Biosphere. The first component of the potential is a natural-geographic potential, the so-called environmental identity of the Poľana BR. This component includes the potential of abiotic and biotic components of the territory and secondary landscape structure (Urban, 2016). The second component of the potential is the socio-economic potential of the Poľana BR. This component represents the socio-economic conditions of the area given by its unique location and territory, specific products, but also the social capital in the area. The third component of the potential is the socio-demographic potential of the Poľana BR. This component is formed by the possibilities and capacity of the human capital of the territory. The last, fourth component of the potential is the innovation potential of the Poľana BR. This potential represents research and education conditions and environment, cultural diversification, background for new ideas, innovations or third sector activities in the area. The evaluation of each potential is based on the average assessment by the representatives of the biosphere reserves as well as by the experts from practice.

| Natural-geographic potential   |     |   |      |
|--|-----|---|------|
| Strengths  | EA  | Weaknesses  | EA   |
| Variety and species richness of fauna  | 1,9 | Overgrowth of selected animal species (brown bear)  | -0,9 |
| Unique surface shapes in the territory   | 1,8 | Overexploitation of natural resources   | -0,5 |
| Unique topography of the territory   | 1,7 | Loss of natural symbiosis (man and nature, reduction of grassland, change in natural habitat composition) | -0,3 |
| Diverse forest system  | 1,7 |   |      |
| A large number of important animal species   | 1,7 | Water pollution   | -0,3 |
| Opportunities  | EA  | Threats   | EA   |
| Possibility of drawing EU funds in partnerships and for joint development projects   | 1,4 | Climate change  | -1,3 |
| Eco-forms of tourism development   | 1,3 |   |      |
| New practices in the care and preservation of fauna and flora                        | 1   | Damage to ecosystems and biodiversity from the negative impacts of human and animal activities.           | -0,7 |
| Lifestyle change focused in leisure time spent with the search for peace, relaxation | 0,8 |   |      |
| Socio-economic potential   |     |   |      |
| Strengths  | EA  | Weaknesses  | EA   |
| Unique folklore and ethnography  | 2   | Lack of promotion of the territory  | -1,1 |
| Exceptional food products  | 1,4 | Undiversified range of services   | -1   |
| Agricultural and forestry opportunities  | 1,2 | Small value attributed to the BR title (missed opportunities)   | -0,9 |
| Possibilities and conditions for hiking and sports and relaxation activities         | 1,2 | Disappearance of traditional agricultural practices of farmers in the territory                           | -0,7 |

|  |           |  |           |
|--|-----------|--|-----------|
| Easy access to the territory   | 0,6       | Poor service infrastructure (restaurants, shops, health services, etc.)                            | -0,7      |
| <b>Opportunities</b>   | <b>EA</b> | <b>Threats</b>   | <b>EA</b> |
| Possibilities of drawing EU funds in partnerships and for joint development projects   | 1,4       | The outflow of the young generation  | -1,4      |
| Eco-forms of tourism development   | 1,1       | Population ageing  | -1,3      |
| Activities of regional tourism organizations suitable for wider promotion of the territory and products                          | 1         | Lack of support at national level for the preservation of such ethnologically specific territories | -1        |
|  |           | High rise in cost of living, inflation, rising energy prices                                       | -0,9      |
| Completion of transport infrastructure of self-governing regions and at national level   | 0,9       | Lack of interest of the young generation in traditions, traditional crafts                         | -0,8      |
| <b>Socio-demographic potential</b>   |           |  |           |
| <b>Strengths</b>   | <b>EA</b> | <b>Weaknesses</b>  | <b>EA</b> |
| Knowledge of traditional product creation practices by locals  | 0,9       | Outflow of young inhabitants from the territory  | -1,6      |
| Manually skilled population  | 0,7       | Predomination of the elderly population  | -1,2      |
| Low population density   | 0,4       | Low number of job opportunities in the territory   | -0,9      |
| Conditions and means for creating new jobs   | 0,3       | Loss of interest in traditional crafts and lack of generational renewal                            | -0,7      |
| <b>Opportunities</b>   | <b>EA</b> | <b>Threats</b>   | <b>EA</b> |
| Possibilities of drawing EU funds in partnerships and for joint development projects   | 1,4       | Consumerist lifestyle  | -1,4      |
| Networking of entities leading to the development of partnerships  | 1,3       |  |           |
| New job opportunities through ecotourism development   | 1,3       | Growing share of silver population   | -1,1      |
| Increasing the rate of promotion of the territory, leading to an increase in its integrity                                       | 1,1       |  |           |
| Development of dual education  | 0,8       | High rise in cost of living, inflation, rising energy prices                                       | -0,8      |
| Changes in lifestyle preferences of potential residents and its promotion  | 0,7       |  |           |
| <b>Innovative potential</b>  |           |  |           |
| <b>Strengths</b>   | <b>EB</b> | <b>Weaknesses</b>  | <b>EB</b> |
| Existence and activities of representatives of the Poľana Protected Landscape Area and the Coordination Council of the BR Poľana | 1,5       | Lack of interest in BR   | -1,4      |
|  |           | Lack of awareness among stakeholders   | -0,7      |
| Existence and implementation of the research projects in cooperation with the BR Poľana  | 1,2       | Means and conditions for research and innovation in the territory                                  | -0,1      |
| <b>Opportunities</b>   | <b>EB</b> | <b>Threats</b>   | <b>EB</b> |
| Possibilities of drawing EU funds in partnerships and for joint development projects   | 1,5       | Insufficient financial, capacity and legislative support for BR                                    | -1,7      |
| Possibilities of support of science, research, education through various domestic and foreign grant schemes                      | 1,4       |  |           |
| Increasing the extent of stakeholder networking and taking advantage of the existence of the Poľana Biosphere Reserve            | 1,2       |  |           |

Table 1 SWOT analysis of the potential of Biosphere Reserve Poľana by expert assessment

Secondly, we present the results of the analysis of the assessment of the quality of life in the Poľana BR by its inhabitants. The selected research results present figure 1.

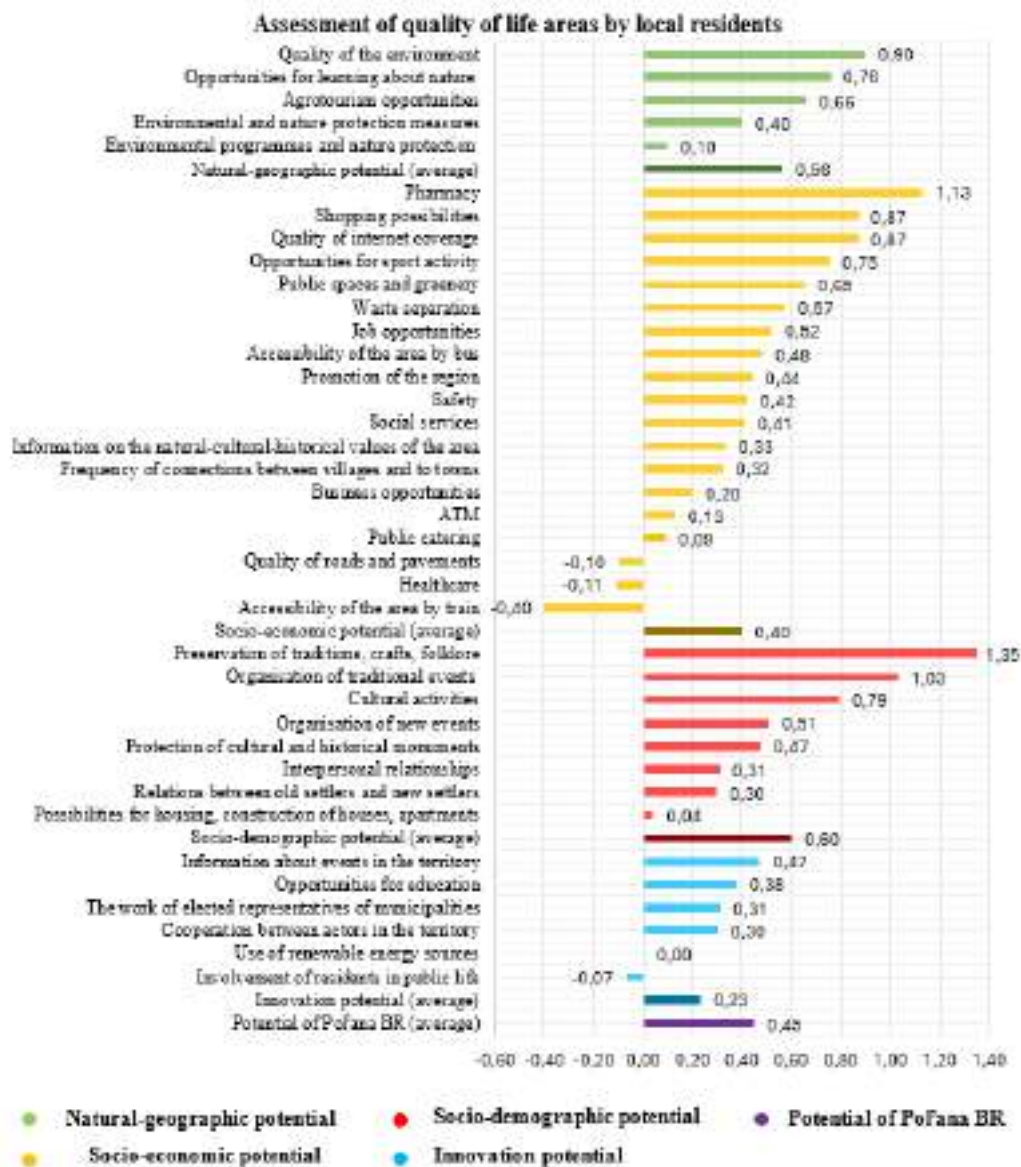


Figure 1 Assessment of quality-of-life areas by residents

The figure 1 illustrates the average scores of all respondents in each aspect of life in the area evaluated on a scale of -2 (dissatisfied) to +2 (satisfied). Within the natural-geographic potential, residents rated the areas of environmental quality (0,90), opportunities to explore nature (0,76), and the possibility of agro-tourism (0,66) as the highest quality of life. The least quality according to residents are programs in the area of environmental and nature protection. The top ranked quality of life area in socio-economic potential according to residents is pharmacy (1,13), followed by shopping options (0,87) and quality of internet coverage (0,87). Residents rank the area's accessibility by train (-0,40), health services (-0,11) and the quality of roads and sidewalks (-0,10) as the least quality of life. Regarding

socio-demographic potential, residents are most satisfied with the area of preserving traditions, crafts, folklore (1,35) and the organization of traditional events (1,03). They are least satisfied with the possibilities for housing, construction of houses, flats (0,04). On average, the respondents rate the socio-demographic potential with a value of 0,60. The last potential examined is the innovation potential, within which residents are most satisfied with information about events in the territory (0,47) and with opportunities for education (0,38). They are least satisfied with the residents' involvement in public life (-0,07). To conclude, the inhabitants are most satisfied with the areas of socio-demographic potential, which are mainly related to the preservation of traditions, crafts and folklore, or culture and the organization of traditional events in the territory. This is followed by the natural-geographical potential, which is dominated by the quality of the environment, and the socio-economic potential, which is also the area with which the inhabitants are most dissatisfied, in terms of accessibility, the quality of infrastructure and the quality of services in the territory. Nevertheless, the socio-economic potential exceeds the overall average rating for innovation potential. The overall evaluation of the potential is presented by the violet color as an average evaluation of all potential components.

The findings through the Friedman test showed that the residents of the Biosphere Reserve rank the preservation of traditions, crafts, folklore, shopping opportunities, cultural activities, opportunities to explore nature and the organization of traditional events among the areas with which they are most satisfied. The residents are least satisfied with the quality of roads and footpaths and the accessibility of the area. However, residents also ranked areas such as: frequency of connections between villages to towns, business opportunities, opportunities for housing, construction of houses and apartments, or promotion of the region, cooperation of actors in the territory and the work of elected representatives of towns and villages among these areas. They were also less satisfied with the following areas: public catering, ATM, job opportunities and information about the natural and cultural-historical values of the territory. The Wilcoxon test showed that the findings on satisfaction with the preservation of traditions, crafts and folklore and dissatisfaction with the accessibility of the territory by train can be statistically generalized to all inhabitants of the Poľana Biosphere Reserve.

Subsequently, based on the results of the questionnaire survey as well as the SWOT analysis of the potentials we elaborated the TOWS synthesis in figure 2.

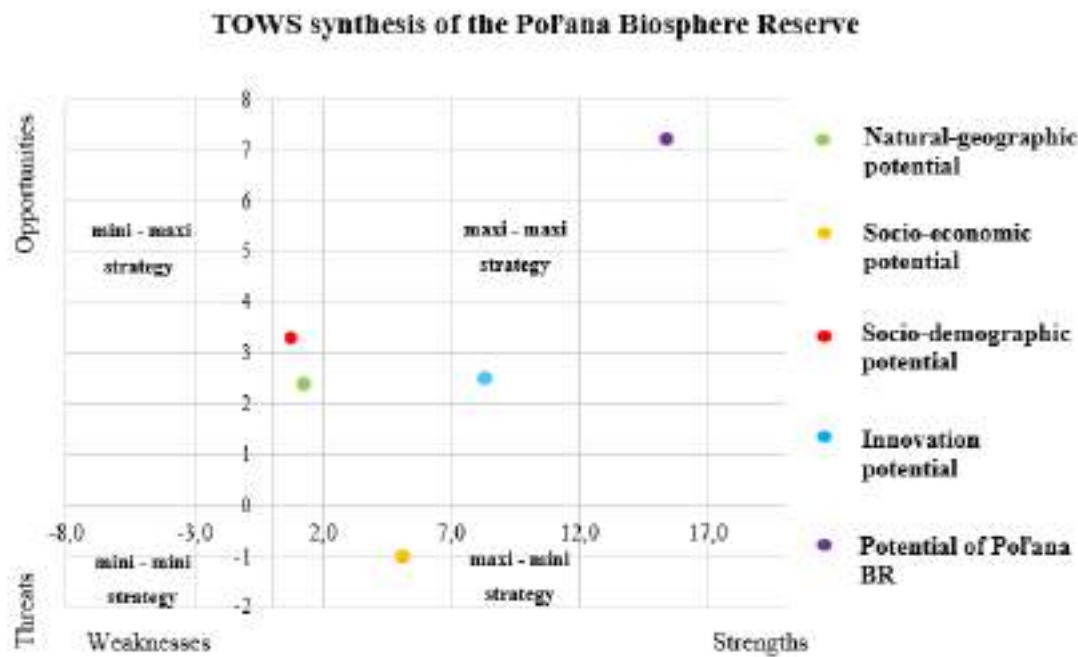


Figure 2. TOWS synthesis of the Poľana Biosphere Reserve

The summary assessment of the natural-geographic potential is located in quadrant 1. The area has several strengths, which are mainly represented by the diversity and species richness of the fauna and the unique surface formations. It also has strong opportunities, which in this case are the possibilities of drawing on EU funds in partnerships and for joint development projects or eco-forms of tourism development. Thus, the appropriate development strategy is the maxi-maxi strategy, based on developing strengths and maximizing the use of opportunities. The socio-economic potential of the biosphere reserve is in quadrant 4. It means that this potential has strengths but is dominated by threats, i.e., it is a maxi-mini strategy. The threats are mainly the outflow of the young generation from the area, the ageing of the population, or the lack of support at national level for the conservation of such an ethnologically specific area. Strengths are in particular the unique folklore and ethnography, the exceptional food products, the agricultural and forestry possibilities, and the opportunities and conditions for tourism and sports and leisure activities. In this case, the strengths should be exploited as much as possible, and the territory should try to avoid potential threats. They also influence the socio-demographic potential, which is located in quadrant 1, where we see strong opportunities but also strengths. The strongest opportunities within this potential are the possibilities to draw on EU funds in partnerships and for joint development projects, the networking of actors leading to the development of partnerships, new job opportunities, or an increase in the level of promotion of the territory leading to an increase in its integrity. The strengths of this potential are, in particular, the knowledge of traditional methods of creating products by local people, the preservation of traditions, crafts and folklore, the organisation of various traditional events and the manual skills of the population. Again, this is a maxi-maxi strategy, the essence of which should be to develop strengths



and maximise the use of opportunities. The innovation potential, as well as the natural-geographic potential and the socio-demographic potential, is located in quadrant 1, and thus the maxi-maxi strategy is recommended. There is a prevalence of strengths represented by the existence and activities of the representatives of the Poľana Protected Landscape Area and the Coordination Council Poľana BR, as well as the existence and implementation of the research projects in cooperation with the Poľana BR. Within this potential, we also have relatively strong opportunities, which are mainly formed by the possibility of drawing funds from the EU funds, the possibility of supporting science, research and education through various domestic and foreign grant schemes, or an increased level of networking of stakeholders and taking advantage of the existence of the reserve. The sum of the assessments was then used to identify an overall potential assessment, which is located in quadrant 1, which means that the Poľana Biosphere Reserve has a prevalence of strengths and opportunities, thus the recommended overall development strategy is the maxi-maxi strategy. Nevertheless, the prevalence of threats in the socio-economic potential and several weaknesses in the socio-demographic potential need to be taken into account.

The strategic planning framework of the Poľana BR use the methodology that reflects the recommendations of UNESCO (2021) and experts on the topic as Vaňová (2006); Vitálišová et. al, (2022); Urban, Miňová, (2024); Vitálišová et. al, (2021). The detailed analysis showed that there should be implemented a maxi-maxi strategy. However, this rather offensive strategy could mean a threat to the Poľana BR, which could be a threat to some of its strongest assets as richness of the flora and fauna. Therefore, the particularities and specificity of this environment should be respected. On the basis of the research findings or examples of good practice from abroad, we propose key recommendations of a strategy for the sustainable development of the Poľana BR. They are softer in nature and that support the sustainable development of the BR but do not threaten it.

Firstly, the common vision and aims for the strategical development of the Biosphere Reserve Poľana should be defined with active involvement of relevant stakeholders. Based on the research results, we can identify three main areas of development. The first one is the empowerment and opportunities for the local population with focus on the support for local producers, particularly craftsmen, farmers, and food producers, and by this way on promoting traditional agriculture and specific local products. Collaboration among regional trademarks brands could enhance marketing networks and promotion efforts. The Poľana BR has great agricultural land but faces challenges in lack of skilled workers and regular sels for its products. Collaborating with local farmers, restaurants, and schools to source and promote locally produced goods could enhance interest and strengthen the catering sector. A model from the Luberon Lure Biosphere Reserve in France, the 'From the farm to your canteen' project, demonstrates how connecting producers with school canteens can promote healthy eating with locally

sourced ingredients. Established in 2009, the project has enabled numerous municipalities to incorporate significant percentages of local and organic produce into their daily school meals. The second area is a support of the sustainable tourism development, particularly through ecotourism and rural tourism, ensuring harmony between tourist flow, environmental protection, and local well-being. BR boasts four main hiking trails, suitable for cycling, and potential for winter sports like cross-country skiing. Other attractions are traditional folklore festivals and culture presentation. The however, the society is struggling with several problems such as the migration of young people, the alienation of the population, the loss of interest in traditional agriculture, etc. Therefore, ecotourism represents the development of activities that are respectful of the unique nature, but at the same time create opportunities for the local population and for the empowerment of areas with which they are not satisfied. Through ecotourism, residents can find new jobs or new business opportunities in the newly offered services, or, by bringing back those that have disappeared, increase their income and standard of living. Addressing these weaknesses through ecotourism initiatives can enhance the area's appeal while preserving its natural beauty and benefiting local communities. The third area of recommendations is oriented on strengthening public awareness and partnership in the territory. Although the area has great potential, if it is not sufficiently promoted among inhabitants as well as for visitors. The promotional activities are done more or less as voluntarily by the administrator of the biosphere reserve, which is reflected in the range of activities. Educational initiatives, including workshops and conferences, are conducted by the Poľana Protected Landscape Area at a high professional level. The promotion of the biosphere reserve as an "ecotourism destination" should be enhanced through systematic collaboration with local actors and communities. Drawing inspiration from the Julian Alps Biosphere Reserve, creating a network of information points could improve visitor experience and educational outreach. Biosphere reserve managers play a crucial role in regional development, actively promoting economic and social activities while preserving the area's identity and culture. However, there is a need to raise awareness among the local population about the UNESCO Man and the Biosphere Programme and the role of the Coordination Council Poľana Biosphere Reserve. Despite efforts through various channels such as websites and social media, there is a perceived lack of information about the BR's natural and cultural values. Engagement of inhabitants is essential for the success of development activities in the reserve. Case studies from Italy highlight the importance of community involvement, which aligns with the positive perception of living within the biosphere reserve among residents and mayors (Mondino, Beery, 2019). Strengthening educational efforts, particularly among different age groups, can further enhance community engagement and support for the reserve's sustainable development goals.

## CONCLUSIONS

The strategic development planning of the BR is an underdeveloped issue, which importance has increasing dramatically especially because of the great climatic changes. In the paper, we applied the strategical planning framework in the BR Poľana as a pilot, where we tested the methodology of analysis based on analysis SWOT and synthesis TOWS. The analysis was based on the evaluation of the BR potential - natural, geographic, socio-economic, socio-demographic and innovative. Based on the potential evaluation, we formulated the recommendations for the development activities. The synthesis TOWS indicates as the most suitable maxi-maxi strategy, leveraging strengths and maximizing opportunities. However, the delicate balance between development and environmental preservation must be maintained to safeguard the reserve's unique biodiversity and landscape.

Key recommendations include defining a common vision for development with stakeholder involvement, focusing on empowering the local population through support for traditional agriculture and ecotourism initiatives based on the uniqueness of the natural and socio-cultural wealth in the Poľana BR. The activities within these priorities could strengthen the interest in the territory, tourism, traditional agriculture, and help solving the problem of the outflow of young people from the territory, who would be motivated to stay and find a job, increase their income, skill level and standard of living, through the newly created job opportunities or the completion of the infrastructure that ecotourism will offer. (Vitálišová and Vavrúšová, 2023; Vitálišová et. al., 2023).

Effective collaboration among stakeholders, including biosphere reserve managers, local communities, and policymakers, is crucial for successful implementation. By aligning strategies with the reserve's unique attributes and addressing existing challenges, the Poľana BR can realize its full potential as a model for sustainable development while preserving its natural and cultural heritage for future generations.

The pilot testing of the methodology for the strategic planning of BR showed that it can a suitable approach for these specific territories. It meets the rules of UNESCO guidelines and brings the added value in looking for the stakeholders 'consensus in development activities. Moreover, it opens also the new research areas, as identification of the most suitable control mechanism, useful tools of participatory governance in BR or "correct" division of power and tasks among stakeholders in BR, etc.

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# KNOWLEDGE MANAGEMENT CAPABILITY, INNOVATION MANAGEMENT CAPABILITY, QUALITY MANAGEMENT, AND SUSTAINABLE PERFORMANCE: DEVELOPING A CONCEPTUAL MODEL

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## ABSTRACT

This research aims to develop a conceptual model regarding the relationship among knowledge management implementation capability, innovation management capability, quality management, with sustainable performance. Literature review is employed to develop the above-mentioned model. This research is novel in creating a holistic model to investigate these relationships and their effects on sustainable performance for the first time in literature. The study also aims to provide practical insights for managers to develop strategies that integrate knowledge management practices, innovation, and quality management to achieve sustainable growth, especially during economic, health, and geopolitical crises, maintaining competitiveness.

The results indicated that: a) knowledge management implementation capability, innovation management capability, and quality management influence sustainable performance, b) knowledge management implementation capability has positive and important relationship with innovation management capability, and c) knowledge management implementation capability has positive and significant relationship with quality management.

*Keywords: Knowledge Management Capability, Innovation Management Capability, Quality Management, Sustainable Performance, Literature Review, Conceptual Model.*

## INTRODUCTION

In today's era of the knowledge economy and society, and the 4th industrial revolution, the utilization of modern technologies, innovation development, and Knowledge Management (KM) are essential elements for the sustainable development of businesses, particularly in the service sector where organizations are knowledge-intensive and rely on it. Furthermore, the long-standing health, geopolitical, and economic crisis plaguing businesses and threatening their sustainability, constitutes a framework that further intensifies the necessity of implementing KM practices and innovation

development by businesses in order to gain comparative competitive advantages and maintain customer satisfaction and quality service, while achieving effective and efficient operation. However, taking into account the existing literature, it is observed that there is no relevant published study exploring the relationship between the critical concepts representing Knowledge Management Capability, Innovation Management Capability, Quality Management (QM), and Sustainable Performance. Therefore, the existence of the aforementioned research gap in conjunction with the necessity of investigating the relationship of the aforementioned concepts constitutes the impetus for this research, where the aim is to create the conceptual model that will depict and link the concepts of "Knowledge Management Capability," "Innovation Management Capability," "QM", and "Sustainable Performance" within a crisis management framework during the 4th industrial revolution where technological advancements and digitization are rapid and necessary for the sustainable development of businesses. The following sections present the literature review, the conclusion with originality, further research and practical contribution of this research.

## LITERATURE REVIEW

### *Knowledge Management Capability*

Knowledge Management (KM) Capability can be defined as: a) the organization's ability to collect critical knowledge for assimilation and exploitation (Miranda *et al.*, 2011), b) the processing and development capability of knowledge-based resources in combination with other resources and capabilities (Chang and Chuang, 2011), and c) a knowledge system that includes behaviors and abilities reflected in organizational processes, so that the organization can cope with market changes (Lukas and Ferrell, 2000; Tseng, 2016).

Specifically, the critical elements contained in Knowledge Management Capability are related to: a) organizational capability to exploit existing knowledge, b) continuous learning process leading to knowledge creation (Martinez-Conesa *et al.*, 2017), c) the promotion of continuous creation of the KM process cycle, as presented in a previous section (Bose, 2003). Additionally, Knowledge Management Capability represents the application of KM processes within an organization, and is characterized as "dynamic" due to its ability to manage organizational knowledge through the realignment of KM processes either within or outside the organization (Martinez-Conesa *et al.*, 2017; Lichtenthaler and Lichtenthaler, 2009). Specifically, Knowledge Management Capability can contribute to minimizing errors and excessive effort in searching for knowledge from the organization's external environment (Martinez-Conesa *et al.*, 2017). Therefore, Knowledge Management Capability represents the overall organizational ability for knowledge storage, dissemination, application, and creation (Alavi and Leidner, 2001; Gold *et al.*, 2001; Pee and Kankanhalli, 2016; Tanriverdi, 2005).

Finally, according to the literature, the most popular perception of Knowledge Management Capability includes two main elements (Gold *et al.*, 2001): a) infrastructure capabilities, which include the dimensions of technology, structure, and culture of the organization, and b) KM process capabilities, which include the systematic process of knowledge creation, storage, dissemination, and application (Alaarj *et al.*, 2016; Gold *et al.*, 2001).

#### *Innovation Management Capability*

Innovation Management Capability refers to the ability of the enterprise to manage its internal organizational structure and management, enhance its operational activities, and improve the culture and philosophy of the enterprise (Damanpour and Aravind, 2011). Additionally, international literature states that Innovation Management is based on three principles: it should be market-oriented, treated as a system, and have clear objectives within the enterprise (Arvanitis *et al.*, 2016). Furthermore, Innovation Management can focus on incremental innovation, small-scale innovation, and radical innovation (Akanmu *et al.*, 2022). Therefore, Innovation Management is a concept that focuses not only on technology but also on processes, functions, and business and managerial models (Szekely and Strebel, 2013) and is influenced by a plethora of internal and external factors.

#### *Quality Management*

Quality Management is a concept that involves the management of various critical factors of the organization with the aim of continuous improvement and customer satisfaction. Specifically, the critical elements of Quality Management are: process management, development of a continuous improvement philosophy, Benchmarking, quality measurement, information analysis, empowerment of human resources, commitment of top management, leadership, customer satisfaction and involvement, and training (Foster, 2007). Quality Management contributes positively to improving sustainable performance, customer satisfaction, organizational performance, employee productivity, service innovation, knowledge management improvement, and the education system (Akanmu *et al.*, 2022; Xanthopoulou *et al.*, 2023). Therefore, it is a concept that is a critical factor in gaining a competitive advantage for businesses that implement it and a means to improve their sustainable performance.

#### *Sustainable Performance*

The sustainable performance is a concept that includes three dimensions: the economy, the environment, and society (Brent and Labuschagne, 2004), which determine business success and sustainable development (Akanmu *et al.*, 2022). Specifically, economic sustainable performance is related to evaluating the return on capital, reducing organizational costs, achieving profit in terms of economic performance goals, and improving income. Social sustainable performance is related to



evaluating the organization in terms of education and training, human resource development, social commitment and participation, and developing a healthy work environment (Zhu *et al.*, 2012). Finally, environmentally sustainable performance refers to evaluating the business in terms of reducing the use of environmentally harmful materials, reducing hazardous emissions into the environment, and utilizing resources in an energy-efficient manner (Junquera *et al.*, 2012). Therefore, the combined assessment of the three dimensions yields the final result of the concept of sustainable performance.

*The relationship among KM Capability, Innovation Management Capability, and Quality Management with Sustainable Performance*

The literature review highlighted a lack of published research regarding the holistic investigation of the relationship between the concepts of "KM Capabilities," "Innovation Management Capability," "Quality Management," and their impact on the "Sustainable Performance" of businesses. While individual relationships between some of these concepts have been explored, there is limited research on their combined influence. Specifically, limited studies exist on the relationship between KM Capability and Innovation Management Capability and their impact on sustainable business performance (Shahzad *et al.*, 2020).

Few studies are available on the relationship between: a) KM Capabilities and Sustainable Performance (Permatasari *et al.*, 2022), b) Innovation Management Capability and Sustainable Performance (Pinzon-Castro *et al.*, 2021), c) Innovation and Sustainable Performance (Zhang *et al.*, 2022), d) QM and Sustainable Performance (Akanmu *et al.*, 2020), e) KM Capabilities and Innovation (Honarpour *et al.*, 2018).

Additionally, there is a lack of published articles documenting the interaction between KM Capabilities and Quality Management (Xanthopoulou, 2023), and limited publications investigating and confirming the positive interaction or unilateral effect between KM Capabilities and QM (Barber *et al.*, 2006; Choo *et al.*, 2007; Colurcio, 2009; Hung *et al.*, 2010; Jayawarna and Holt, 2009; Honarpour *et al.*, 2018; Molina *et al.*, 2007; Waddell and Stewart, 2008).

Based on the above, the proposed conceptual model that can be derived from the literature review presented above is as follows:

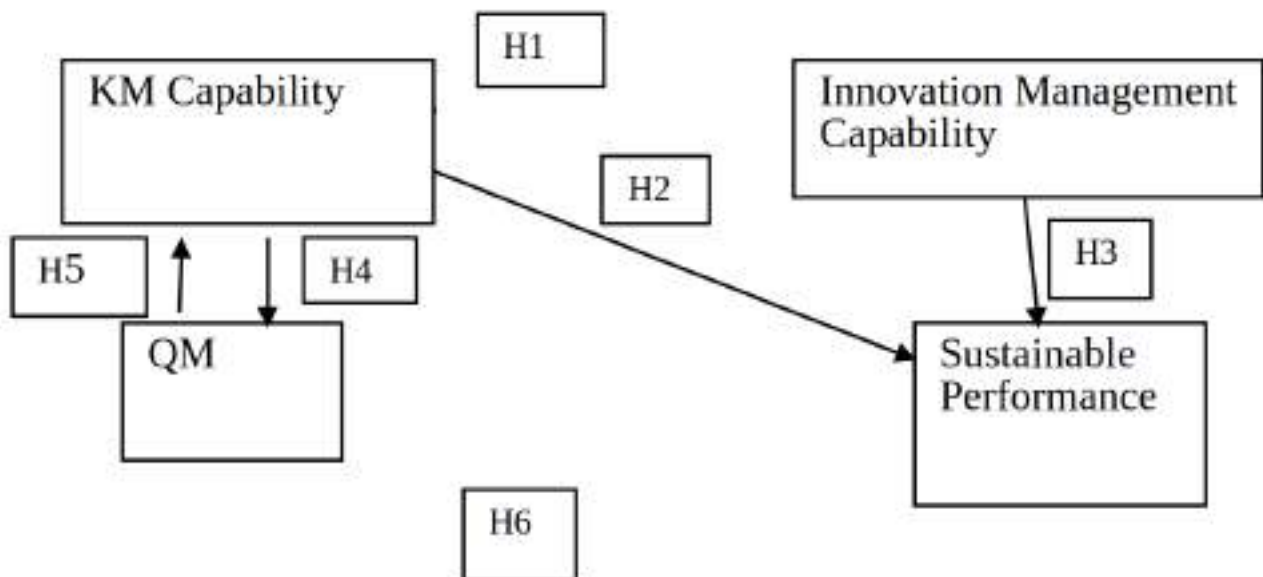


Figure 1. The conceptual model

Based on the provided description, the research hypotheses are as follows:

H1: "KM Capability" positively relates to "Innovation Management Capability."

H2: "KM Capability" positively relates to "Sustainable Performance."

H3: "Innovation Management Capability" positively relates to "Sustainable Performance."

H4: "KM Capability" positively relates to "Quality Management."

H5: "Quality Management" positively relates to "KM Capability."

H6: "Quality Management" positively relates to "Sustainable Performance."

## CONCLUSION

This research proposed a conceptual model regarding the relationship among KM Capability, Innovation Management Capability, QM with Sustainable Performance.

The originality of this research lies in the following factor. It is the first attempt to create an integrated research model that will include and connect all concepts (Knowledge Management, Innovation Management, Quality Management, Sustainable Development) into a research model.

Additionally, the practical contribution of this research lies in transferring knowledge to managers of companies, so that they can immediately shape the appropriate strategy for exploiting and linking the application of Knowledge Management, Innovation Management and Quality Management practices to achieve a high degree of sustainable development during periods of deep economic, health, and geopolitical crises and to remain competitive.

Finally, this research could serve as the basis for the quantitative testing of the research model.

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## **BOOK OF CONFERENCE ABSTRACTS**

# INJECTIVE BLOCKCHAIN IN THE AGRI-FOOD INDUSTRY: BRIDGING GAPS AND UNLOCKING UNTAPPED POTENTIAL

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## ABSTRACT

### RESEARCH BACKGROUND

Blockchain Technology (BCT) has emerged as a promising solution to address current challenges of agri-food industry related to traceability, transparency, audibility and food safety by providing a decentralized and immutable ledger for transparent and secure transactions (Adamashvili et al., 2021). Recently, several studies have explored the development of BCT and its diverse applications. However, most of these studies offer only company perspectives (Silvestri et al., 2023; Galati et al., 2021). Technical aspects of BCT-based agri-food systems and their challenges, remain uninvestigated. For instance, detailed information regarding the deployment of network nodes is crucial as it encompasses various associated costs, including hardware expenses, network infrastructure costs, and the most importantly maintenance (gas fee), as well as personnel costs. Besides, since the multiple parties using different software systems and data formats, the interoperability issues arise.

The purpose of this study is to investigate the use of BCT in the wine marketplace, including its present state, possible uses, and future directions. Specifically, based on the case study of BCT developer company – Injective, this work will present a comprehensive analysis of the strategies for BCT applications. Moreover, the Injective blockchain, its perspectives in agri-food industry, advantages and disadvantages will be discussed.

This study offers valuable insights for both theory and practice. It enhances the literature by exploring BCT developers' strategies for technical progress highlighting the challenges faced by adopters. It also provides significant implications for industry stakeholders, comparing the Injective blockchain with other systems in terms of compatibility, cost, speed, data privacy, and scalability. Additionally, qualitative interviews with BCT developers offer practical recommendations to optimize BCT strategies, bridging the gap between theory and practice.

## METHODOLOGY

For the abovementioned purpose, we evaluate the technical considerations involved in BCT development strategies, including node deployment, compatibility, scalability, and associated costs through leveraging insights from existing literature and industry practices.

As a first step, a background analysis of the existing literature is conducted. Then, the research is supplemented with qualitative analysis through semi-structured interviews with the employees of blockchain service provider companies Injective (<https://injective.com/>) and Injective Foundation (<https://www.opendefi.xyz/>). By engaging with industry experts, insights into node deployment strategies, cost considerations, and the practical implications of implementing BCT solutions are gained. The semi-structured nature of the interviews allows for flexibility in exploring emergent themes while ensuring consistency across responses (O'Keeffe et al., 2016). Additionally, in order to enhance the methodological robustness and reduce potential bias in the findings, a triangulation approach is employed and the secondary source data is included in the analysis. It ensures that the findings are grounded in a diverse range of perspectives, thereby enhancing the credibility and reliability of the research outcomes (Yin, 1998, 1999).

## EXPECTED RESULTS

Some sources show that stakeholders in the agri-food industry often adopt role-based node architectures, where different types of nodes fulfill distinct functions within the network (Apla Revision, 2018). According to Rocha and colleagues (2021), Stakeholders may deploy additional nodes to handle increased transaction volumes and ensure network performance.

The study identifies advantages and disadvantages associated with operating big number of nodes, including enhanced security, fault tolerance, and performance optimization as well as the importance of keeping few but trustful nodes. Distributing the workload across multiple nodes improves resilience against single points of failure and mitigates the risk of data loss or corruption. However, we also uncover potential disadvantages of deploying big number of nodes, such as increased infrastructure costs, operational complexity, potential for centralization, and trustfulness of the nodes. Besides, studying Injective BCT revealed that in some cases, additional node cannot be of help for better performance of BCT.

Furthermore, through the interviews with employees of Injective and Injective Foundation, we anticipate gaining additional insights into the practical considerations and challenges associated with the development of BCT-based systems. By integrating these qualitative findings with the existing literature, we aim to provide a comprehensive analysis of BCT running strategies and their implications for stakeholders in the agri-food industry.



## CONCLUSION

BCT-based systems allow to achieve the traceability where manufacturers have the responsibility and increased opportunity for providing information about their products, and independent third parties can verify the accuracy of the information about the origin and quality of the products.

Our findings contribute to a deeper understanding of the challenges and opportunities associated with BCT application in agri-food business, offering insights for practitioners, policymakers, and researchers seeking to optimize BCT launching strategies and enhance supply chain efficiency and transparency.

*Keywords: Blockchain, Smart Contract, Agri-Food Supply Chain, Node Deployment, Hyperledger Fabric, Consensus Mechanisms, Technical Analysis, Case Study.*

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## SUCCESSFUL FUND ACQUISITION FROM BUSINESS ANGELS: EMPOWERING START-UP ENTREPRENEURS

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### ABSTRACT

The present research aims to examine how start-up entrepreneurs can be better able to acquire and secure funds from business angels in the context of Thailand. Business angel funds are one of the most important funding sources for start-ups, especially without historical financial records, start-ups face difficulties in convincing financial institutions to grant them loans. They experienced highly challenging circumstances in investing in start-ups because of high levels of risk and uncertainty (Scheela and Jittrapanun, 2012) as well as a low success rate of obtaining angel funds. Prior research has shown that Thai business angels have decided to invest by co-investing with family members and government agencies to reduce perceived risk. by closely monitoring them after investing (Scheela and Jittrapanun, 2012). Business angels need to have a comprehensive understanding of business angels' investment decision-making and behavioural criteria related to entrepreneurial teams, communication skills and networking (Mason et al., 2016). Past studies indicate a high failure rate among start-ups in obtaining sufficient capital from business angels (Harrison et al., 2015; Capentier and Suret, 2015). Behavioural decisions are based on individual 'gut feeling' (Huang and Pearce, 2015) as opposed to the rational economic evaluation model (Baker and Ricciardi, 2014). Credibility assessment includes the level of trust in firms, which relies on the expertise of the management team and the statistical record of the firm, e.g., repayment ability, profitability, financial history. Business angels focus on rate-of-return and the expected rate is approximately 30–40 % within a three- to five-year period. Entrepreneurs must be able to identify the exit point for investor (Harrison et al., 2015; Mason et al., 2016).

Data were collected using the in-depth interview technique, allowing the study to investigate what influences business angels in funding new start-up entrepreneurs and how behavioural credibility factors are associated with their investment decisions. The research instrument is through a semi-structured interview questionnaire with semi-structured and open-ended questions. A total of 16 Thai individuals participated in the study through purposive sampling, i.e., the researchers personally contacted business angels in Thailand, as there are no readily available sampling frames. Of the total 16 individuals, 12 business angels and four start-up entrepreneurs agreed to be interviewed. Four start-up entrepreneurs/founders participated in this research and obtained funding from business angels. Business angels are defined as "high net worth individuals who invest their own

money, along with their time and expertise, directly in unquoted companies in which they have no family connections, in the hope of financial gain" (Harrison et al., 2015: p.527). In addition, business angels should obtain a personal liquidity at a minimum liquidity of 30 million Thai baht (\$1,000,000) (Mason, 2005). Start-up entrepreneurs are founders of start-ups who have successfully received business angel funding. Thematic analysis was performed, and inter-rater reliability was constructed to ensure the quality of data abstraction. The data analysis shows six themes of behavioural credibility: perceived trustworthiness, perceived expertise, perceived entrepreneurial spirit, socio-demographic background, social capital, and gesticulation. Perceived trustworthiness emerges as a pivotal determinant influencing business angels' investment decision. Factors such as self-investing, transparency, integrity, and personal relationships significantly impact the perceived trustworthiness of start-up entrepreneurs. Business angels prioritize entrepreneurs who exhibit a high level of commitment and honesty, while also valuing recommendations from trusted industry experts. Both business angels and start-up entrepreneurs emphasize the importance of first impressions, effective communication, and confidence in presentation delivery as essential elements in securing investment. This study contributes to the entrepreneurship literature by addressing a research gap between business angels and start-up entrepreneurs.

*Keywords: Trustworthiness, Social capital, Gesticulation, Transparency, Integrity, Referral networks*

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## TOWARDS BEHAVIORAL TRANSFORMATION INSPIRED BY PANDEMICS

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### ABSTRACT

Consumers tend to repeat behaviors that have given positive results in the past. The generally slow transformation of the behaviors sometimes can be influenced by drastic changes in the environment, leading consumers to change their usual behaviors to respond to new conditions (Zwanka and Buff, 2021). Therefore, periods in which consumers are facing drastic environmental changes offer an opportunity to analyze the factors and mechanisms that trigger behavioral transformations. The COVID-19 pandemic is a good example of such a sudden consumer behavioral transformation that resulted in significantly increased online buying and a reduction in offline buying (Hansson *et al.*, 2022). However, though many of the factors contributing to this change (e.g., social distancing, fear of being infected) have almost disappeared, online buying keeps the same volume or even increases (Alwan *et al.*, 2023). This justifies that the period of the pandemic may suggest valuable insights into sustainable behavioral transformations, which include both consumers who had or had not experienced purchasing online before the pandemic (Zwanka and Buff, 2021).

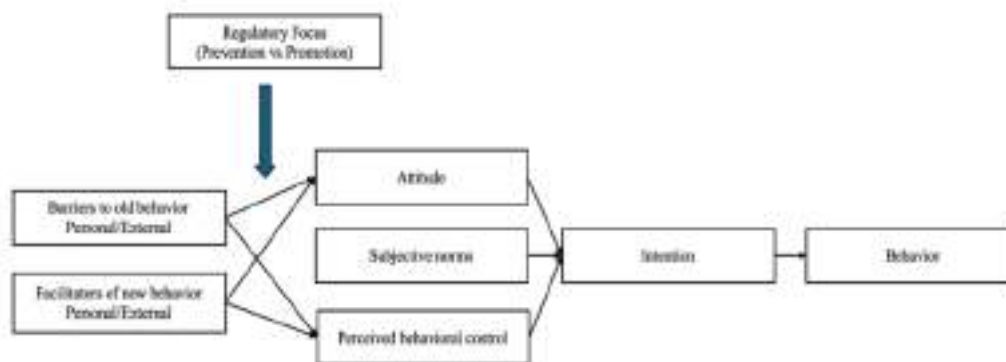
During the pandemic, a distinct group of health threats related situational factors and the implementation of social distancing measures emerged (Hansson *et al.*, 2022). These factors acted as barriers to offline buying, simultaneously making the online buying option not only more convenient but sometimes even the only possible (Pantano *et al.*, 2020). Furthermore, the consumers' shift toward online buying was additionally encouraged by growing awareness of the benefits of online buying, such as its convenience and safety.

The noticeable shift from offline to online buying during COVID-19 gives an ideal opportunity to reveal the situational factors that explain lasting mechanisms of behavioral transformation, going beyond the period of the pandemic and performing more generalized modeling of behavioral transformations. This study focuses on the factors that can be conceptualized as barriers to "old" behavior (i.e., buying offline) and opportunities for "new" behavior (i.e., buying online). In addition, some factors can be viewed as facilitators or distractors to the shift from old to new types of behavior. All these factors are analyzed in the context of the Theory of Planned Behavior (TPB), which is often used as a general tool for explaining human (including consumer) behaviors and helps to explain online buying (Bhati *et al.*, 2022).

Additionally, this study proposes that behavioral transformation is impacted by personal priorities, influenced by either prevention or promotion-focused motivations, as suggested by the Regulatory

Focus Theory (RFT). Based on this, key aspects of the Regulatory Focus Theory are integrated into the framework of TPB to reflect buyers' behaviors that have occurred because of barriers and opportunities of the pandemic period. Consideration of the regulatory focus helps to disclose how much the behavioral transformation is influenced by promotion focus (emphasis on the benefits of online buying) versus prevention focus (avoiding the threats and complying with restrictions of the pandemic period). Extension of this concept helps to develop a more generic theoretical model of behavioral transformation that goes beyond the period of pandemics and applies to a much broader set of transformations, thus starting to build a Theory of Behavioral Transformation. This model must include previous ('old') and novel ('new') behaviors. The typical TPB model considers just one type of behavior; therefore, to model transformation towards a new behavior, all elements of the TPB model (attitude, subjective norms, perceived behavioral control, intention, and behavior) must be linked only with the new behavior. Also, not always important factors can be strictly categorized into barriers and opportunities. Rather than that, opportunities could be integrated with facilitating factors that could be conceptualized broader than in the model for the COVID-19 period. This is justified by the fact that facilitating factors may capture both personal aspects and external (contextual) elements. The same is suggested for barriers that could include distracting factors of personal and external (contextual) nature (see Figure 1).

**Figure 1.** Model of Behavioral Transformation.



This study is based on an extensive literature review and employs a context-based approach. It raises several contributions to the theory. First, it highlights and groups together specific factors and provides a theoretical mechanism for the behavioral shift from offline to online buying during COVID-19. Second, and most importantly, it develops a broader model of behavioral transformation that applies to conditions beyond the situational specificities of the COVID-19 period and explains the overall mechanism of behavioral transformations in various fields of business. The developed model is entirely theoretical, however, it offers an important springboard for further research. The research questions are: do barriers to old behavior always positively impact attitude and perceived behavioral control towards the new behavior? Do facilitators of new behavior always positively impact attitude

and perceived behavioral control towards the new behavior? Do prevention/promotion regulatory focus significantly moderate the impacts of barriers and facilitators towards attitudes and perceived behavioral control?

This research also raises implications for practice, since it helps businesses in various fields to understand the motivating factors behind the consumers' shift from 'old' to 'new' behavior (for example, sustainable behavior). Based on this knowledge businesses can implement different marketing strategies allowing them to attract new customers or maintain existing ones.

## ACKNOWLEDGMENTS

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*Keywords: COVID-19, behavioral transformation, TPB, Regulatory Focus Theory.*

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# CHARACTERISTICS OF AGRICULTURAL LAND AND MARKET PRICES: A SYSTEMATIC LITERATURE REVIEW

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## ABSTRACT

### 1. INTRODUCTION

The land market plays a crucial role in the economy of every country, directly influencing food production and security, environmental sustainability and poverty alleviation (Deininger and Byerlee, 2011; Muraoka *et al.*, 2018; Petrescu-Mag *et al.*, 2019). The growing concerns about soil degradation, desertification, and biodiversity loss (Lal, 1994) underscore the delicate balance that must be maintained to ensure sustainable land use practices. Despite its fundamental importance, the land market is often overshadowed by urban real estate, neglecting the crucial role of land in human sustenance. The shift of land from agricultural to non-agricultural uses, coupled with land abandonment, has strained the supply of cultivable land. A considerable interest arises from the 17 Sustainable Development Goals (SDGs) outlined in Agenda 2030 which address various challenges to promote sustainability in the agriculture sector (United Nations, 2015). Moreover, safe and fair access to land must be ensured (Weitz *et al.*, 2014).

In recent years, farm real estate values have reached unprecedented levels, with values across much of the United States standing at record highs in both real and nominal terms (Borchers *et al.*, 2014). From 2009 to 2023, the average value of U.S. irrigated and non-irrigated cropland increased by 107% (USDA, 2023). In the European Union countries, the unit price of arable land is increased by 3% from 2021 to 2022 (Eurostat, 2024).

The continuous demand for land-based products, such as food and bioenergy, is generating a growing competition for the land (Haberl *et al.*, 2014).

Nevertheless, the real estate market is still characterized by a lack of transparency and scientifically rigorous data, especially regarding agricultural land transactions, which often lack precise information (Festa *et al.*, 2021; Gholipour *et al.*, 2023).

The value of agricultural land depends on the economic, social, political, and institutional context (inflation, economic and demographic development, fiscal policy, etc.), which explains the variation in values over time and across large geographic areas. It also depends on specific characteristics (topographical, physico-chemical, hydrological, structural, etc.) that explain the variability of land values at the same moment and in the same area (Gallerani *et al.*, 2011).

The goal of this research is to identify all intrinsic and extrinsic characteristics contributing to the formation of agricultural land market prices or values, since “many of the factors that help explain the variation in farmland values across the country are parcel-specific” (Nickerson *et al.*, 2012), carrying out a Systematic Literature Review (SLR) to compile all works by authors who have explored this topic over the years. This SLR was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Statement 2020 (Page *et al.*, 2021).

## 2. METHODS

The SLR presented in this study was conducted using the PRISMA flow diagram, reported in Figure 1. The data were extracted from the Scopus and Web of Science (WoS) research databases, which are two of the most widely used for bibliometric analysis (Singh *et al.*, 2021), by implementing the Boolean algorithm. After establishing the terms more relevant to the research objective, a query was built and adapted to the “Advanced Search” of both Scopus and WoS.

The search query used in Scopus was: *TITLE-ABS ((agricultural-land\* OR land\* OR farmland\*) W/5 (price\* OR valu\* OR appraisal) AND (characteristic\* OR factor\*)) KEY (land-price\* OR land-market OR land-value\* OR agricultural-land-price\* OR agricultural-land-valu\* OR farmland-valu\* OR farmland-price\* OR assess\* OR valuation\*) SUBJAREA (econ OR agri).*

The search query used in WoS was: *TI=((agricultural-land\* OR land\* OR farmland\*) NEAR/5 (price\* OR valu\* OR appraisal) AND (characteristic\* OR factor\*)) OR AB=((agricultural-land\* OR land\* OR farmland\*) NEAR/5 (price\* OR valu\*) AND (characteristic\* OR factor\*)) AND KP=(land-price\* OR land-market OR land-valu\* OR agricultural-land-price\* OR agricultural-land-valu\* OR farmland-valu\* OR farmland-price\* OR assess\* OR valuation\*) AND SU=(Econ\* OR Agri\*).*

Initially, during the identification phase, queries were set to find key terms in titles and abstracts. Subsequently, the search was refined by adding terms identified like keywords, KW (Fig.1) and subject areas, SA (Fig.1), focusing on economic or agricultural sciences. Records not in English were excluded and no temporal limit has been set up. At this point, the screening phase was started and, after removing duplicate records and considering the reports not retrieved, one researcher read the title and abstract of the records found during the identification phase to assess their eligibility by relying on the following exclusion criteria: i) Off-topic; ii) Land for non-agricultural uses; iii) Territorial and not parcel-level surveys. After detecting records suitable for eligibility, three researchers - who worked separately - read the full texts and dealt with the data collection on a previously created matrix in Excel that contains the following items: Authors; Year of publication; Paper type (Research paper, Conference paper or Working paper); Journal; Journal ranking; Publisher; Country (under investigation); Research



objective; Data type and source; Sample size; Methodology; Characteristics (parcel-level and macro-level characteristics).

Additional exclusion criteria were defined for the second part of the screening phase. In particular, some studies did not deal with the characteristics affecting land prices or values. Other studies considered macro indicators or socio-economic factors only. Moreover, a few studies dealt with land rent, credit, leasing or auction markets and therefore they were not linked with the farmland sales market dynamics. Finally, there also were studies in which land for non-agricultural uses such as residential, urban and industrial were investigated. Therefore, all studies belonging to the above-mentioned categories have been removed.

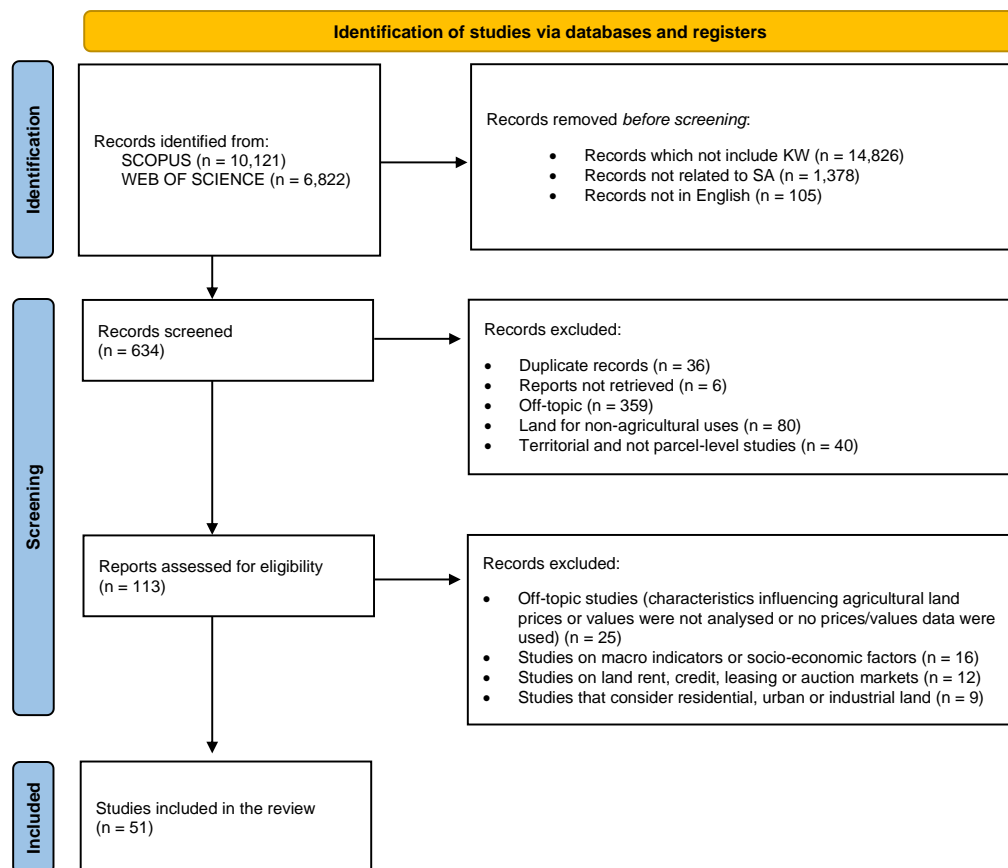


Figure 1. PRISMA 2020 flow diagram

### 3. RESULTS

The results obtained in each step of the SLR were recorded on the PRISMA 2020 flow diagram (Fig. 1). The first step, called “identification”, returned 10,121 and 6,822 records in Scopus and WoS respectively. After the exclusion of the records which did not include KW (no. = 14,826), not related to SA (no. = 1,378) and not in English (no. = 105), the records screened were 634 (no. = 465 for Scopus and

no. = 169 for WoS). Out of these 634, 36 records were duplicates, i.e. present in both databases and 6 reports could not be retrieved. The reading of the titles and abstracts showed that 359 records were off-topic. Moreover, according to the exclusion criteria adopted and above listed, a number of 80 and 40 records were removed because they dealt with land for non-agricultural uses or were territorial and not parcel-level studies, respectively. After this screening, 113 reports were assessed for eligibility. From the reading of the full texts, it emerged that 25 studies were off-topic (about 23% of the total), meaning that these studies did not address the characteristics influencing agricultural land prices or values. Furthermore, 16 studies had considered only macro indicators or socio-economic factors in their analyses (14% of the total), 12 were studies addressing land rent, credit, leasing or auction markets (about 10%), and 9 were those that dealt with residential, urban or industrial lands (about 8%). Therefore, the final number of studies included in the SLR dropped to 51.

It is hoped that the final version of this research can contribute to increasing interest from public and private stakeholders in the land market and the crucial role that it has and will play in the coming years.

*Keywords: land, price, value, market, characteristics, appraisal, farmland, agricultural land.*

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# USING WEB SCRAPING FOR BUSINESS MARKET RESEARCH IN THE TRAVEL INDUSTRY

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## ABSTRACT

The travel industry is highly competitive, and businesses within this sector require up-to-date data to attract customers and stay ahead. Web scraping has emerged as a valuable tool for acquiring data from various online sources, including travel websites, hotel booking platforms, airline websites, and review sites. This thesis explores the usage of web scraping in business market research within the travel industry. It examines web scraping applications, the global market size and forecast, growth drivers, challenges, and ethical and legal considerations.

Additionally, it explores the role of data-driven decision-making, big data, marketing, market research, and business intelligence in the context of web scraping. The methodology section outlines the research approach, participants, data collection, and analysis techniques. The research concludes with a discussion of the applications of web scraping in market research within the travel industry, alternative ways of data extraction, best practices, challenges, and recommendations. Overall, this research provides insights into the benefits and implications of utilizing web scraping in business market research in the travel industry, offering guidance for organizations looking to leverage this technology effectively.

## INTRODUCTION

Web scraping is a valuable tool used in various industries, including travel and hospitality. It allows businesses to gather large amounts of data from websites, enabling them to stay competitive and make informed decisions. The travel industry relies on up-to-date information about customer preferences, flight availability, hotel options, and other factors influencing travel choices. Web scraping automates the data collection process, saving time and effort. It enables businesses to collect data from multiple websites simultaneously and extract it in real-time or at regular intervals. "Web scraping bridges the gap between human-understandable and machine-readable data and opens up a new world of data to researchers by automatically extracting structured data sets from human-readable content" (Mitchell, 2018). Web scraping has many benefits, including faster and easier tasks than by hand, low maintenance and operational costs, targeted advertising, learning about product pricing data, market dynamics, predicting trends, finding out how competitors are doing and their problems, researching public opinion, getting real-time data with less time, money, and effort, and giving companies a clear

market edge (Kasereka, 2020). Web scraping tools also offer customization options for data formats and centralized storage, making data integration easier. Furthermore, web scraping enhances decision-making by providing accurate and timely insights (Almaqbal *et al.*, 2019; Khder, 2021).

## DATA COLLECTION METHODS FOR MARKET RESEARCH

Web scraping is data extraction from websites using automated techniques, benefiting various fields like research, business, e-commerce, and education. It offers advantages such as efficient task execution, low maintenance costs, targeted advertising, and competitive analysis. The global market for web scraping, driven by e-commerce growth, is projected to reach USD 16 billion by 2035 (Verma and Singh, 2023). Despite challenges like manpower and data accuracy, web scraping is widely used in business intelligence, AI, data science, and cybersecurity. While applying web scraping, ethical and legal guidelines should be considered (Cresswell, 2021; Khder, 2021; Verma and Singh, 2023).

**Table 1: Comparison of web scraping with other data collection methods (Han and Anderson, 2021)**

|                              | Scraped data                | Commercial web scraping service   | API                  | Survey                      |
|------------------------------|-----------------------------|---|----------------------|-----------------------------|
| Cost                         | Low                         | Medium  | Low/Medium           | High                        |
| Sample frame                 | Website users               | Website users   | Website users        | Flexible                    |
| Customizability of variables | Medium                      | Low   | Low                  | High                        |
| Ease of frequent collection  | Easy                        | Moderate  | Easy                 | Hard                        |
| Data type                    | Behavioural                 | Behavioural   | Behavioural          | Attitudinal                 |
| Limitations                  | Time and programming skills | Data may not be suitable to the researcher's need in terms of variables or content. | Limited availability | Time and programming skills |

## METHODOLOGY

The methodology of this study follows a qualitative research approach to investigate the usage of web scraping in business market research within the travel industry. The study utilized snowball sampling to select participants who are experts in the field of market research and web scraping. Data collection was conducted through qualitative interviews, gathering participants' insights and perspectives. We've identified more than 54 experts using our personal network, LinkedIn, online business & tech communities. Overall, 14 experts agreed to interviews; 12 experts were interviewed, and two dropped out during the interview phase due to health issues. Semi-structured interview questions were used, and the transcribed interview data formed a dataset of over 50,000 words. The collected data was analyzed using appropriate techniques to identify key themes and patterns. This enables a

comprehensive exploration of web scraping applications, challenges, and best practices in travel industry market research.



**Figure 2: Coding constructs determined from the interview data**

## DISCUSSION AND CONCLUSION

It was found that web scraping can be a valuable tool for managers in various ways. A main benefit mentioned by experts during the interview is that web scraping can provide market insights to managers. However, it necessitates cleaning and building presentations from scraped data. Experts concluded that web scraping in this context might provide flexibility in the format and structure of data. It means a person can extract data in the format they need, and data can be utilized for presentations and diagrams, enhancing decision-making. This aligns with Khder's (2021) and Vording's (2021) findings. Besides market trend analysis, competitor analysis, product price monitoring, and customer sentiment analysis, based on two new applications of web scraping were identified: training AI models and threat detection. All experts from this study panel were using Python for scraping. They revealed the reason are features like: proxy support and distributed scraping, and it can be programmed to follow links and implement delays to prevent server issues. Another finding of the study Scrapy framework of Python is the most used tool for web scraping among the interviewed panel of this study, and the experts consider it very useful. A solution was identified for the change in source challenge to allocate resources, with triggers or alerts in place and investigating and troubleshooting issues that arise during the scraping process.

Interview data shows that web scraping may have legal and technical drawbacks. Legal difficulties may require verifying that the data collection procedure is legal and does not break any laws or regulations. Failure to follow legal requirements might lead to a business closure. Additionally, aggregated data use may be limited. Aggregating data for statistical purposes may limit its availability to customers. Aggregating, evaluating, and releasing data may need legal compliance (Krotov et al., 2020). While web scraping can provide valuable insights for competitive analysis, pricing trends, and

customer sentiment, it also raises concerns related to data accuracy, legality, and ethical considerations (Eaton, B, 2021). According to the study, web scraping's technical issues include source limits, dependency on other systems, need for constant maintenance, source blocking, and bogus data. Acknowledging Gheorghe et al. (2018) about dependency on other sources, it is identified that dependence on other systems can lead to potential issues such as website shutdowns or legal issues where web scraping or passing of content is permitted. A new idea was presented: It may be crucial to create systems to make you aware of potential changes and may avoid relying on such systems, as they may not always be updated or protected.

The study has limitations regarding participant diversity, subjectivity in qualitative analysis, and focus on the travel industry. Future research may explore technological advancements in other industries, and conduct longitudinal studies to gain a comprehensive understanding of web scraping in market research. Overall, the study provides valuable insights for leveraging web scraping effectively in market research within the travel industry.

*Keywords: Web scraping, Global market research, Digital transformation, Travel industry, Data-driven decision-making, Big data, Marketing, Market research, Business intelligence, Data collection methods*

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**DRIVERS OF THE ADOPTION OF CIRCULAR ECONOMY PRACTICES  
AMONGST TOURISTS IN A MATURE NATURE-ORIENTED DESTINATION:  
CASE STUDY ON THE ARCHIPELAGO OF MADEIRA**

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## **ABSTRACT**

### **BACKGROUND**

This paper focus on the topic of 'Tourism and Sustainable Economic Development', is one of the most debated issues in the literature, but still poorly understood or practised in many instances. Within the framework of sustainable development, the concept circular economy offers the tourism sector a business and ecological oriented approach to ensure environmental sustainability. The literature on the topic is quite extensive, with a few good examples of successful applications of the concept (Manniche et al., 2021; Ranta et al., 2018; Rodríguez-Antón and Alonso-Almeida, 2019; Rodriguez et al., 2020; Sørensen et al., 2020). Operators and local government have been a busy working to establish commercial and political strategies in this regard, with a focus on the so-called green and environmentally sustainable products and services. This is an issue that causes universal concern in destinations welcoming increasing number of visitors in small areas lacking strategic resources such as water and local food production. However, the central role to be played by tourists in the production of environmentally sustainable tourism experiences cannot be ignored. Quite often the sector persuades only the convinced failing reach the ones who remain sceptical.

### **PURPOSE**

This study discusses how tourists' practices may be enhanced by emphasises changes that tourists prefer and are willing to welcome and pay for it. To determine which tourist practices might support a circular economy, we used a quantitative approach to elicit the impact of attitudes, daily practices, and practical preferences at the hotel of choice, in terms of facilities, room service, restaurant food and beverages.



## METHODOLOGY

Based on multivariate statistics and SEM analysis we identify the impacts of readily available information such as socio-demographics, nationality, type of hotel and travel arrangements to identify the most enthusiastically engaged segments of visitors.

## FINDINGS AND DISCUSSION

Our findings reveal several potential drivers can help operators to identify the best tourist practices aiming at developing business models anchored in the circular economy paradigm. The results suggest that the gap between intentions and real behaviours is rather small. Moreover, besides showing up a consistent behaviour, most visitors are ready to pay a premium and check before hand for the hotel's credentials in the environmental area. However, while being ready to adopt measures that increase the level of energy and resource management efficiency, measures that affect them personally (e.g. daily cleanness of the room) are not welcomed to the same extent.

## CONCLUSION AND IMPLICATIONS

This study also suggests a number of recommendations and practical measures to persuade visitors to adopt more environmentally sustainable behaviours. Hotels have free rein to implement energy and resources efficient measures that save resources, foodstuff, electricity, and water, and any other form of action and architectural transformation that would imply a more sustainable operational business model, that is not literally seen or physically perceived by visitors. As elsewhere, Madeira is facing critical shortages of critical resources such as space and a pro-tourism attitude among residents. Therefore, these results are good news to hotel managers and DMO officials that need to communicate changes of routines and a green-oriented business model to visitors. As most visitors are looking for pristine landscapes and to a welcoming and reassuring ambiance, is just a matter of fine tuning the message.

*Keywords: Circular economy; Tourism sector; Nature destination; Island destination; Economic sustainability; Environmental sustainability; Sustainable tourism.*

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# A SYSTEMATIC REVIEW OF THE DIVERSITY OF BEHAVIORAL FACTORS INFLUENCING SUSTAINABLE CONSUMPTION AT THE NEXUS WITH IMPULSIVE BUYING BEHAVIOR

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## ABSTRACT

This article outlines the findings of an extensive literature review examining the intersection of impulsive buying behavior (IBB) and sustainable consumption. Responding to a significant academic call for investigating predictors of sustainable consumption (White *et al.*, 2019), the research serves as a pioneering effort to explore this juncture, highlighting behavioral factors that expand the scope of sustainable consumption and introduce a novel path for research linked to impulsive buying behavior.

Previous literature review confirmed that we cannot consider economic growth without considering its adverse consequences, such as resource scarcity, climate crisis, loss of biodiversity, and social inequalities (Akbulut *et al.*, 2019). The practical implementation of resilience actions, such as sustainable consumption, is relatively new to academic research and lacks a well-structured framework with fluid boundaries (Vergragt *et al.*, 2014). Economics academic research adopted the terms “weak” and “strong” sustainable consumption (Hobson, 2013), where the latter calls for serious cutting on consumption, and both consider customer behavior modification. Current research refers to myriad types of sustainable consumption offered, such as responsible, green, ethical, voluntary simplicity, and so on (Haider *et al.*, 2022). However, the “attitude-behavior” gap is a hot research topic where individuals who regard themselves as environmentalists and conscious consumers still make unsustainable choices (Chitnis *et al.*, 2013). Furthermore, academic research suggests that up to 90% of consumers are impulsive purchasers, and up to 80% of individual consumption is based on impulsive buying behavior (IBB) when “a consumer experiences a sudden, often powerful and persistent urge to buy something immediately” (Wang *et al.*, 2022; Khan *et al.*, 2015). The literature review reveals a complex interplay between sustainable consumption and IBB, reflecting three distinct trends.

The study undertook an extensive, two-stage process to identify relevant extant research and filter the corresponding papers based on explicit extraction criteria. Over 300 factors influencing sustainable consumption at the nexus with IBB have been identified. The pertinent and significant sources were then systematically analyzed to reach theoretical and practical value findings comprehensively incorporated into a single provisional theoretical framework

encompassing factors like self-control, moods, emotional intelligence, psychological safety, and emotional engagement. Testable research propositions are presented for empirical validation.

Theoretical contributions feature a Three-pillar Model of Sustainable Consumption and a Preliminary Conceptual Framework on behavioral factors. Practical contribution outlined by the Iceberg Model for Marketing Actions Related to Sustainable Consumption. This review enriches theoretical understanding and practical application by examining behavioral drivers impacting sustainable consumption. Furthermore, it presents actionable guidance for managers seeking to align their brands with sustainability principles.

*Keywords:* sustainable consumption, green consumption, degrowth, voluntary simplicity, ethical consumption, impulsive buying behavior, factors influencing sustainable consumption

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## SHAPING NEW PATHWAYS: INNOVATION AND PERFORMANCE IN SMES

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### ABSTRACT

Nowadays, innovation is recognized as one of the main drivers of SMEs' growth (Audretsch *et al.*, 2014; Arcuri *et al.*, 2023) playing a crucial role in reshaping their competitive advantage (Arcuri *et al.*, 2023; Montani *et al.*, 2023) and becomes an entrepreneurial opportunity for firms to gain benefits (performance) through creating unique and distinctive offering as well as becoming the key source of a firm's long-term entrepreneurial success (Schumpeter, 1934), making on one hand innovation invaluable for enhancing individual success and on the other hand, SMEs driver for the national competitiveness (Albis Salas *et al.*, 2023; Antenzio *et al.*, 2023; Audretsch, 2002). Being promoters of innovation, SMEs often find themselves reinventing their activities (Albis Salas *et al.*, 2023; Antenzio *et al.*, 2023) demonstrating a heightened sensitivity to external technological and innovation changes (Montani *et al.*, 2023).

Internal innovation activities are enabled to have high-performance outcomes (Arcuri *et al.*, 2023; Matricano, 2023) distinguish SME from the others. For example, innovation activities like R&D investment positively impact innovation (Albis Salas *et al.*, 2023; Arcuri *et al.*, 2023) and productivity of SMEs (Albis Salas *et al.*, 2023), while intellectual property serves as a measure of novelty (Athreye *et al.*, 2021) and provides legal protection crucial for innovative SMEs' transformation (Matricano, 2023). Additionally, human capital emerges as a key factor fostering SMEs to have a competitive advantage (Kiefer *et al.*, 2022) and higher profits (Xu & Li, 2019) than others being positively associated with firms' earnings, and operating efficiency (Xu and Li, 2019; Kiefer *et al.*, 2022).

In the relationship between innovation activities and performance, significant attention is paid on gender diversity at the top management team that contributes to innovation (Xie *et al.*, 2020; Lee and Chung, 2022; Talke *et al.*, 2010), to firm performance (Yang *et al.*, 2019; Talke *et al.*, 2010), and to strategic orientation (Talke *et al.*, 2010). However, recent studies show that firms with more women in the top management team generate fewer impactful and cumulative innovations in the world (Lee and Chung, 2022), considering that these firms may take fewer risks than firms with more male directors (Yang *et al.*, 2019).

Despite the growing interest in innovation and SMEs, there is still a lack of studies to understanding the necessary innovation activities and their intersection for high-level performance in women-led SMEs. Drawing on this research gap, this study poses the following research question: Does

innovation activities affect female-SMEs performance? What paths of innovation activities are relevant to have performance in female-SMEs?

In this study, we focus on the Innovative Italian SMEs ranging from 10 years (2013-2022) to explore the interdependence of multiple innovation activities of female-led SMEs vis-à-vis non female-led SMEs on financial performance outcome through novel approach of fs-QCA (Pappas & Woodside, 2021; Ragin, 2008) that is well suited to exploring possible configuration of conditions on a focal outcomes and can reveal equivalent paths that result in the same outcome (Pappas & Woodside, 2021; Ragin, 2008). According to Ragin (2008), first we calibrated the conditions (R&D investment, human capital and intellectual property) and outcome variable (financial performance measured by ROS). Second, we consider the necessity analysis by evaluating the relevance of the conditions that alone produce high-level of SMEs performance and finally, we also consider the truth table and sufficient analysis to understand how the intersection of innovation activities produces an elevated outcome. For the sufficient conditions analysis, the intermediate solution is evaluated. Finally, robustness analyses were performed by modifying the calibration thresholds.

Our results underline an interesting relation between innovation activities and financial performance as outcome and suggest that the theoretical proposition is supported for both female and non-female-led SMEs. For these inputs (R&D investment, human capital, and intellectual property), the two clusters don't show specifically differences in terms of necessary and sufficient conditions and the gender of the leadership does not appear to influence the relationship between these conditions and financial performance as measured by ROS. On one hand, no one of innovation activities alone can explain high-level of performance and at the contrary, R&D investment is a condition that is very inefficient on its own; on the other there are two pathways for each cluster that one combined R&D investment with human capital and other combined human capital with intellectual property. In this way both female and non-female Innovative SMEs can achieve an optimum outcome.

The two main theoretical implications of this study refer, on one hand, to the evolution of the traditional measure of innovation input as R&D investment as, today, this variable is to be considered insufficiently explanatory of innovation especially in innovative SMEs. Accordingly, we have proposed other variables useful that assess that phenomenon, that can be used in future empirical studies to evaluate innovation in Innovative SMEs, contributing to RBT and the understanding of internal strategic resources for innovation. On the other hand, we propose to study innovation in SMEs with a novel methodological approach as fs-QCA.

Furthermore, this study aims to offers also several managerial implications related to SMEs innovation and performance. First, it suggests that SMEs investments in R&D is no longer sufficient on its own to improve the ability of both female and non-female SMEs to generate an important level

of performance. Second, from a strategic perspective, SMEs could benefit by not only focusing on R&D investment but also going in-house to implement human capital and intellectual property.

*Keywords: Innovation, SMEs, Innovative SMEs, fs-QCA, Innovation activities, Performance, Innovation inputs, Female entrepreneurship*

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## SUSTAINING SUSTAINABILITY: WHAT MAKES IT DIFFICULT FOR CONSUMERS TO SUSTAIN SUSTAINABLE FOOD PRACTICES

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### ABSTRACT

Food waste at consumer level poses a great sustainability challenge. Reducing food waste can help in decreasing the carbon footprint and GHGs (WRAP, 2011) and can assist in enhancing global food safety (Parfitt et al., 2010; Dou et al., 2016). Therefore, halving global per capita food waste by 2030 is target 12.3 of the SDGs (Munir, 2022, United Nations, 2017).

According to existing studies, consumers' attitudes and behaviour play a significant role in mitigating food waste (Derqui & Fernandez, 2017; Schanes et al., 2018; Principato et al., 2018). However, despite the increasing need for consumers to adopt more sustainable food consumption practices and reduce waste (at home or other contexts, such as hospitality), recent research suggests that consumers resist sustainable food practices, e.g. due to habit (Thompson et al., 2020), reconfiguration challenges (Gonzales-Arcos, et al., 2021) and even maladaptive behaviours (Block et al., 2016). Nevertheless, research that attempts to explore underlying factors that prevent consumers from maintaining their sustainability practices (or makes them give up and move back to the unsustainable practices) needs further exploration.

Habit Theory (Wood & R nger, 2016) suggests that people engage with the same (sustainable or unsustainable) behaviour without making a conscious effort to do so. These behaviours are comprised of an automatic component, picked up by repetition and prompted by a cue (Duhigg, 2013; Lally & Gardner, 2013) which then generate a resistance to change (Orbell & Verplanken, 2010). Thus, individuals who attempt to change their habitual (unsustainable) food consumption behaviours may find it difficult to sustain the newly adopted (more sustainable) practices, as trying to maintain a new practice may cause tensions, stress and negative emotions. On the other hand, supporting more sustainable "habits" (e.g. instead of conscious decisions) may prove to be a useful tool in promoting more sustainable behaviours.

Nevertheless, habit-related tensions can distract, discourage, and demotivate consumers from maintaining sustainable food consumption practices, as they limit feelings of freedom, enjoyment and other affective structures associated with food consumption. For instance, in the context of this study, attempting to reduce food waste when in a restaurant, e.g., by restricting choice or searching for smaller portions, may be time consuming, reduce enjoyment, and lead to stress and negative

emotions, due to habitual norms and behaviours. These tensions may therefore be linked with a complex mix of cognitive, affective, and behavioural aspects that go beyond the reported resistance to adapt sustainable practices (Gonzales-Arcos, et al., 2021).

Using the hospitality industry as our context, we build on habit and social practice theories (Reckwitz, 2002, Shov et al., 2012), to explore: a) the role of habit in maintaining sustainable consumption practices or reversing to previous (less sustainable) ones, b) the factors that affect habitual norms and consumer behaviours in the hospitality sectors and c) strategies to manage the effect of habit to support consumer food waste reduction behaviours.

The data for the study will be gathered by employing a sequential mixed method study consisting of an exploratory qualitative phase and an experimental quantitative phase. It is expected that the findings of the study will contribute to the existing limited body of knowledge on food waste by understanding factors (individual and contextual) that makes it difficult to sustain the sustainability practices in the consumption contexts of hospitality.

*Keywords: Sustainable consumption, Habit theory, Consumer behaviour, Hospitality, Food waste*

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## INFLUENCER MARKETING: NECESSARY CONDITIONS ANALYSIS

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### ABSTRACT

The proliferation of social media users continues to surge, a trend projected to persist until at least 2027 (Wong, 2023). Influencers wield growing influence, shaping the attitudes, preferences, and decisions of their audience (Joshi et al., 2023). What once may have been a pastime for some has transformed into a full-fledged profession, attracting many aspiring influencers (Joshi et al., 2023). Consequently, alongside traditional marketing methods, brands are exploring influencers as a novel avenue to promote their offerings. Thus, the integration of influencers into marketing campaigns is becoming commonplace (Joshi et al., 2023), giving rise to influencer marketing as a prominent strategy for businesses to adopt (Vrontis et al., 2021). Global spending on influencer marketing is poised to continue its upward trajectory, with 2023 witnessing a 29% increase over the previous year's expenditures (Geysler, 2023). In the literature, discussions predominantly centre on the source's characteristics, content attributes, and their impact on consumers (Vrontis et al., 2021). Source characteristics, including authenticity (Zniva et al., 2023), credibility (Sokolova and Kefi, 2020), and brand-influencer congruence (Janssen et al., 2022), are extensively scrutinized. Similarly, the outcomes vary, with certain aspects of influencer marketing influencing brand-related metrics as brand attitudes (Martínez-López et al., 2020) and purchase intentions (Ren et al., 2023), as well as factors related to the influencer themselves, as credibility (Wang et al., 2017).

### PURPOSE

The literature predominantly examines the sufficiency logic, neglecting the necessity logic, which delves into what must be present for another variable to exist (Dul, 2016). It's crucial to explore not just what influences but what is indispensable for an effect. Interestingly, despite various methodologies, none have employed Necessary Conditions Analysis (NCA), aimed at identifying and studying indispensable conditions (Dul et al., 2023). Recognizing the potential of hypotheses on necessary conditions across disciplines, the authors advocate for research questions framed and analysed through the necessity lens, enhancing academic and practical insights (Dul et al., 2023; Dul et al., 2021). They also propose identifying and empirically probing more necessary conditions in marketing research (Dul et al., 2021). This study aims to determine if X is a necessary condition of Y,

bridging a methodological and theoretical gap. Specifically, it investigates the causal necessity relationship between influencer marketing characteristics and key outcomes.

## **METHODOLOGY**

According to Dul et al. (2023), the NCA, which emerged in 2016, is increasingly used in different disciplines in the business and management area, including marketing. Nevertheless, in marketing communication, necessary conditions are discussed but not always empirically proven (Dul et al., 2021). Thus, a quantitative survey will be conducted through a questionnaire, which will be based on studies that have proven the existing relationships between certain characteristics and results, and which will be distributed online. The target population of this study will be social media users who follow at least one influencer of two specific areas (Beauty/Fashion or Travelling/Leisure), assuming a non-probabilistic convenience sampling, which is ideal for collecting a large amount of information in a short space of time (Bhardwaj, 2019).

## **FINDINGS**

This study identifies crucial influencer characteristics for attaining high credibility, driving consumer purchase intentions, and fostering positive brand attitudes. Credibility hinges on non-commercial messaging, autonomy from brand influence, and alignment with brand values. Factors like follower count, reliability, expertise, and attractiveness also shape credibility. These attributes not only impact credibility but also influence consumer attitudes and purchase intentions towards brands. Trustworthiness, expertise, and congruence enhance brand attitudes, while attractiveness and authenticity stimulate consumer interest in purchases. The synergy between influencer traits and authentic messaging is pivotal in effective marketing campaigns. Upholding these attributes empowers influencers to positively influence consumer behaviours, reinforcing their role in brand communication and marketing strategies.

## **DISCUSSION AND IMPLICATIONS**

The study will contribute not only to the literature of influencer marketing, as it will be pioneering in the analysis of necessary conditions in this area, introducing also, for this purpose, a new methodology, but also help brands and companies themselves, providing important data on those characteristics of the influencer and his content that will be mandatory to obtain positive results from these partnerships.

*Keywords: Digital Marketing; Influencers; Influencer marketing characteristics; NCA methodology; Influencer credibility; Purchase intentions; Attitudes towards the brand*

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# SATISFYING HOTEL CUSTOMERS ACCORDING TO THEIR CULTURE: AN ANALYSIS OF ONLINE REVIEWS

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## ABSTRACT

### CONCEPTUAL BACKGROUND

In today's interconnected world the strength of electronic word of mouth (e-wom) is higher than ever especially in tourism where online reviews affect online purchase decisions and customer satisfaction (Kim et al., 2016; Athanasopoulou & Giovanis, 2023). Consumer-generated content, in the form of online reviews, is becoming an increasingly important source of information for shoppers affecting 20–50% of online purchase decisions (Mathwick & Mosteller, 2016). Furthermore, research shows that online reviews affect customer satisfaction (e.g. Berezina et al., 2016; Kim et al., 2016; Athanasopoulou & Giovanis, 2023) and ultimately, hotel sales and profitability (Kim et al., 2015).

However, different hotel service attributes are expected to have asymmetric effects on customer satisfaction (Mikulic & Prebežac, 2008; Kim et al., 2016) according to customer culture (Min et al., 2018; Zhang et al., 2020). Tripadvisor reports that the ratings given by customers differ substantially according to their region of origin (Banerjee & Chua, 2016). Therefore, there is a need to investigate further the role of culture in the effect of different service attributes on customer satisfaction (Guan et al., 2022; Mariani et al., 2020). The purpose of this study is to determine the role of customer culture in the effect of different hotel service characteristics on customer satisfaction by analysing online reviews.

### METHODOLOGY

We analyse 6.500 online reviews from Booking.com for 42 4- and 5-star hotels in Athens, Greece in terms of the overall hotel score and individual service characteristics (cleanliness; location/access; personnel quality; installation quality; room quality; food quality; service process quality, and perceived value) for 1 year (2022). We first use netnography to analyse review comments and assign

each comment to a relevant service feature and then categorize it either as positive or negative. Next, we use penalty-reward contrast analysis (PRCA) (Mikulic & Prebežac, 2008), and the three-factor theory of customer satisfaction (Matzler & Sauerwein, 2002) to investigate the asymmetric impact of different service attributes on customer satisfaction. Finally, the culture categorization of Rosen & Shankar (2013) (11 cultures) is used to analyse data according to culture (Latin Europe, East Europe, Latin America, Near East, Arab, Far East, Confucian Asia, Anglo, African, Germanic and Nordic).

## **RESULTS**

Cleanliness, process quality and perceived value are frustrators overall and do not lead to high satisfaction if increased. However, hotels can increase process quality to delight East Europeans and use perceived value to increase the satisfaction of Latin Europeans since this factor is a hybrid for this culture and affects satisfaction symmetrically. Location/access is a delighter for Asians, a satisfier for Arabs and Nordics and a dissatisfier for Anglo and Germanic cultures. This finding shows that Anglo and Germanic customers consider location to be a basic factor that will dissatisfy them if missing but will not increase satisfaction if increased. On the contrary, Asians are delighted, and Arabs and Nordics are very satisfied by good location but will not be dissatisfied if it is missing. Installation quality, food quality and room quality are dissatisfiers in the overall sample. However, food quality is a hybrid for East and Latin Europeans and installation quality is a hybrid for Arabs and Latin Europeans. Therefore, hotels can affect customer satisfaction/dissatisfaction by changing the level of service in these attributes since they have symmetric effects on customer satisfaction.

## **MANAGERIAL IMPLICATIONS**

The results of this study can serve as a guide for customizing hotel services according to customer culture to increase satisfaction, prevent dissatisfaction and enhance overall hotel performance. The value of this study is the identification of the different service attributes that are important for customer satisfaction in each culture so that hotels can differentiate their service offer to maximize the satisfaction of each customer and improve online ratings. An improvement in online ratings can affect hotel performance significantly. Therefore, the effective customization of the service mix based on information mined from online reviews can help hotels enhance customer satisfaction, their reputation and their relationships with customers and ultimately increase their profitability.

## **LIMITATIONS-SUGGESTIONS FOR FURTHER RESEARCH**

This study is based on the analysis of reviews of hotels in one city for 1 year. Future research can



expand the sample of reviews to whole countries or economic areas, analyse comments qualitatively to provide detailed information on the service attributes that are most important for each type of customer or on the sentiments experienced by each customer. Finally, future research can examine the effect of service attributes on customer satisfaction according to hotel class, or star rating.

*Keywords: culture, consumer-generated content, hotels, customer satisfaction, online reviews, asymmetric effects, three factor theory*

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## SEGMENTATION OF THE ITALIAN E-MOBILITY MARKET. AN APPLICATION OF THE THEORY OF PLANNED BEHAVIOR

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### ABSTRACT

The pressing need to reduce worldwide greenhouse gas (GHG) emissions is pushing governments to plan the phase-out of internal combustion engine vehicles (ICEVs) in the coming years, encouraging consumers to switch to zero emission vehicles. In 2023, the EU parliament voted to ban on the sale of CO<sub>2</sub> emitting vehicles by 2035. Electric vehicles (EVs), which have zero tailpipe emissions, are deemed to contribute to the GHG emission reduction in the transport sector that accounted for 24% of the EU's total CO<sub>2</sub> emissions (Faria et al., 2019; Europe Commission, 2023; European Parliament, 2023). Despite the support from governments, the EV uptake is still low in some EU countries such as Italy (ACEA, 2023).

In this context, the analysis of the e-mobility consumer market is fundamental. The literature has largely investigated EV purchase intention highlighting that demographics, beliefs, knowledge, moral and social norms, perceptions, and behavioural factors underlie the adoption (Ivanova and Moreira, 2023). Psychographics, socio-demographics, and behavioural factors were also used as bases for the market segmentation. However, there are few studies concerning the e-mobility market segmentation despite that profiling consumers would help car manufacturers and policy makers to implement more suitable and differentiated measures to endorse the EV uptake. The classification of EV consumers is still underexplored (Mohamed et al., 2016; Morton et al., 2017; Jaiswal et al., 2022).

Given the scarcity of segmentation works and the low EV uptake in Italy, this work aims to segment the Italian e-mobility market. The segmentation will allow for the identification of groups of consumers that can be targeted by tailored marketing and governmental actions.

The acknowledged complexity of the EV consumption suggests adopting the Theory of Planned Behaviour by Ajzen (1985), which is the most widely used model in the literature and whose predictiveness is extensively proven (Mohamed et al., 2016; Yegin and Kram, 2022), to identify the psychographics used as segmentation bases.

According to the original model, the individual's behaviour is predicted by behavioural intention, which is in turn explained by three determinants:

- Attitude: the degree to which a given behaviour is positively or negatively valued;
- Subjective norms: the individual's perception concerning the social expectations to adopt or not to a given behaviour;
- Perceived behavioural control: the individual's perception about how easy or difficult it is to perform a given behaviour.

In addition to attitude, subjective norms, and perceived behavioural control, we add further determinants extending the original model. These determinants are moral norms, which are the personal feelings of moral obligation to perform/refuse or not to a given behaviour (Ajzen, 1991) and EV knowledge that expresses how much respondents know, and how up-to-date on e-mobility they are (Augurio et al., 2022).

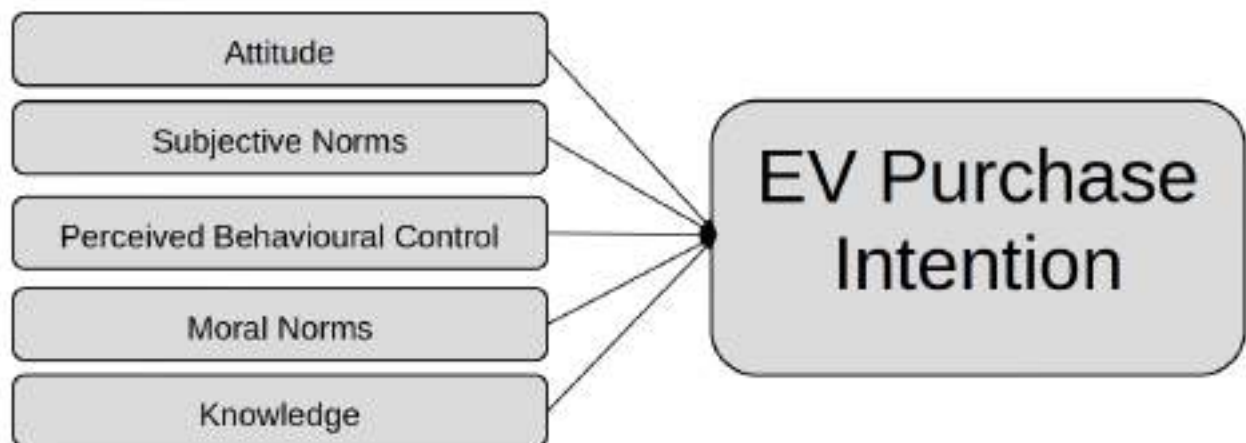


Figure 1. Theoretical framework – Factors Influencing EV Purchase Intention

Items from the TPB model were selected from those mostly cited in the literature. "Knowledge" was measured by asking respondents how much they know about technical and economic aspects of e-mobility. "Purchase intention" was measured by asking respondents to rate on a scale from 0 to 100 the likelihood of purchasing an EV in the near future.

The research sample consists of 1100 individuals stratified by gender, age, geographical area, and education to be representative of the Italian population. Respondents were asked to answer an online questionnaire distributed by Toluna Company, which offers professional research services.

At the current stage of this research, factor analysis is being performed to reduce the items referring to attitude, subjective norms, perceived behavioural control, and moral norms. The resulting components from the factorial analysis will be used with knowledge and purchase intention as segmentation bases.

*Keywords: e-mobility, electric vehicles, segmentation, theory of planned behavior,*

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## UNLOCKING NGO SUCCESS: THE STRATEGIC ROLE OF MULTISENSORY MARKETING IN A DYNAMIC GLOBAL ENVIRONMENT

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### ABSTRACT

The current living paradigm is significantly different than it was a four years ago. There are various reasons for this. One reason was the pandemic, another was the global fiscal crisis, the Ukraine war, and Israel - Palestine war. All these circumstances contributed to the enhancement of an already existing global and ethical crisis. This overall societal crisis has created various problems such as the struggle for survival and for success for many businesses and even more for NGOs (Prasad, 2020; Lins & Aquino, 2020; Laato et al., 2020; Tallon, 2020). NGOs are facing tremendous challenges especially since 2019, in the age where the consumer has so many alternatives but also financial difficulties.

Hence, in a market overloaded with information and options for the consumer, there is a trend but also a need to view consumers from an experiential, hedonistic lens and to examine the role of emotion in regard to receiving aesthetically pleasing, satisfying, and hedonic experiences. That is very important, as the suffering loss of a valued consumer to a competitive business or organization, can have significant consequences on profitability and on survival. Both companies and non-profits must face the dynamism and competitiveness of today's paradigm. Consequently, the trend is to shift the focus from consumer "acquisition" to consumer retention. Hence, the focus on the current living paradigm leads towards two words: satisfaction and engagement (Nikolinakou & King, 2018). It is crucial to understand how consumers behave and respond in relation to the reception of different stimuli, and in relation to how this affects consumer actions and decisions.

In order to better stimulate consumers, it is important to comprehend the context in which the consumer exists. Thus, it is important to point out that the online environment and online buying, even before the pandemic, were already present and flourishing, due technology, social media and virtual reality and AI. This contributed to a big consumer shift towards online buying which altered the previous buying paradigm (Douce et al, 2022). As a result, there was already an increasing trend towards online buying, but since the pandemic appeared, almost everything turned online globally. This was something that had never happened before, and this changed completely how consumers act

and behave. Hence, there is a new paradigm of consumer behavior which needs to be explored within the construct of SM, and it is necessary to identify how the valuable, promising but underexplored tool of SM can assist both consumers, companies, and NGOs, in order to communicate better and attain to their goals. Therefore, it is necessary to fill this gap first in knowledge and then apply findings into practice (Petit, 2019; Douce et al, 2022). As scholars' point, there is an impending need to redefine online consumer behavior and to utilize sensory marketing optimally, aiming to comprehend the hedonic aspect of consumer behavior and to increase online consumer pleasure and satisfaction.

Studying online and offline sensory marketing as separate research foci is essential for gaining a comprehensive understanding of how sensory cues influence consumer perceptions and emotions in different environments (Rathee & Rajain, 2017; Hussain, 2019; Petit et al., 2019; Worfel et al., 2022). The differences in sensory cues, contextual factors, and the increasing significance of online channels in marketing practice emphasize the need for separate examination of online and offline sensory marketing to advance the field of sensory marketing research. Therefore, online and offline sensory marketing, due to the different nature of sensory experiences in these environments should be studied separately. So far in the online environment there is still sensory deprivation which can limit the availability of sensory stimuli and impact consumer experiences, leading to the need to explore how sensory imagery can compensate for the lack of direct sensory experiences online. On the other hand, research in the offline environment has focused on understanding how actual sensory experiences can influence consumer perceptions, emotions, and behaviors (Hamacher & Buchkremer, 2022). Thus, NGOs need to transform their practices and use the valuable tools of Sensory marketing, so that they adjust to the new online paradigm, in order first to survive and then to thrive.

## **METHODOLOGY**

The methodology which will be applied aims to address the gap in understanding within the field of sensory marketing the factors which can contribute to its optimal application. Recognizing the recent emergence and potential of sensory marketing, the research will utilize systematic and narrative literature reviews to consolidate existing knowledge. Drawing on the established benefits of systematic reviews, such as minimizing bias and ensuring transparency, the research employs a structured eight-step process (Elliot et al., 2017; Xiao & Watson; 2019).

This process includes defining research questions, setting standards, literature searching, screening for relevance, assessing source quality, extracting and coding data, synthesizing findings, and reporting results. By meticulously following this methodology, the present research aims to comprehensively

explore and evaluate existing literature while contributing new insights both in theory and in practice to the field of sensory marketing (Staples & Niazi, 2007; Nightingale, 2009; Xiao, Watson, 2019; Shaffril et al., 2021).

## **THEORETICAL CONTRIBUTION**

This research represents a significant theoretical advancement in the field of sensory marketing by integrating insights from cinematography into the conceptual framework. By elucidating the previously unidentified linkages between sensory stimuli and cinematographic techniques, the study enriches the understanding of how various elements influence consumer engagement and perception. Through a systematic exploration of sensory marketing principles and their manifestation in visual storytelling on digital platforms like YouTube, present research contributes to the development of a more comprehensive theoretical model and fills theoretical gaps stated by scholars in the field. Furthermore, the incorporation of deductive qualitative analysis, coupled with an inductive element, facilitates the identification of novel categories and subcategories, thereby expanding the theoretical discourse surrounding sensory marketing and online consumer behavior.

## **MANAGERIAL CONTRIBUTION**

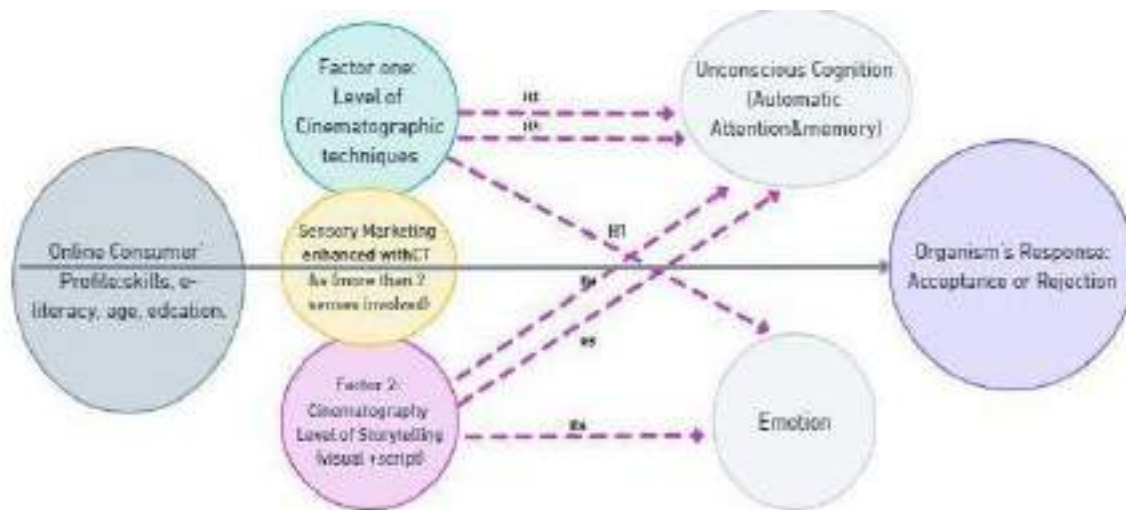
From a practical standpoint, this research offers invaluable insights for marketers seeking to optimize their online sensory marketing strategies, particularly within the nonprofit sector. By delineating the specific cinematographic techniques that enhance sensory engagement and drive video virality, the study provides actionable guidance for crafting compelling narratives that resonate with target audiences. Moreover, the development of an evolved sensory marketing model tailored to the idiosyncratic needs of NGOs empowers practitioners to create impactful viral video campaigns that effectively communicate their mission and values. Through the application of these findings, marketers can harness the power of sensory stimuli and cinematography to elevate their digital marketing efforts, ultimately fostering greater awareness, engagement, and support for nonprofit organizations operating in the digital landscape.

## **ANTICIPATED FINDINGS**

Based on the present research aim, and the preliminary research which lead to the below suggested framework, it is expected via both further theoretical and empirical research, to identify specific

color/s and specific cinematographic techniques, which if incorporated on NGOs' videos on YouTube, the videos will become extremely engaging and popular, with low cost.

## PRELIMINARY ONLINE SENSORY MARKETING FRAMEWORK



OSM Framework: 3 models SOR, LC4MP (Limited capacity of mediating processing), OCBM

Keywords: Sensory Marketing, Online Multi-Sensory Stimulation, Consumer Behavior, Cinematography, Enhanced Sensory Marketing, Virality, Online Consumer Behavior, YouTube, Consumer Cognition, Experiential Marketing.

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## NUDGING HEALTHCARE PROFESSIONALS' PRESCRIBING PRACTICE THROUGH THE EFFECT OF PARTITION DEPENDENCE

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### ABSTRACT

#### OBJECTIVES

Continuous improvement and adaptation are crucial for healthcare organizations. In particular, Evidence Based Medicine (EBM) is used to achieve the conscious, explicit and judicious use of all available recent research evidence to enable optimal decisions in medical practice and patient care. Despite evidence to support up-to-date, informed decision making, established habits of health professionals can prevent them from making optimal decisions. This is partly due to the fact that EBM creates a tremendous overload of information. During a study in a tertiary care hospital in the USA, approximately 3700 pages of national guidelines were identified concerning the treatment of just 18 patients in 24 hours (Allen and Harkins, 2005). In this study we explore nudging using partition dependence as an alleviation to EBM implementation problems, in terms of applying clinical pathways and protocols as consistently as possible while also encouraging the prescription of generic over brand name drugs to reduce the cost of care provided. The application of this intervention can lead a health system towards practices that are potentially more cost-effective without causing at the same time a reduction in the level of service provided. The 'nudge' paradigm for behavior modification is utilized to promote alignment between clinical practices and desirable standards, based on the belief that behavior can be willingly adjusted by making certain choices more naturally appealing. As for the definition, nudge is essentially every kind of choice architecture which affects the individual behavior in a predictable manner, without excluding any possible relevant choice or significantly altering the financial incentives. Nudges allow healthcare professionals to maintain their autonomy, as they don't limit their freedom of choice (Thaler and Sunstein, 2008). Nudging finds its theoretical background in Behavioral Economics. The essence is that people think through two primary but interrelated processes, as suggested by the so-called Dual Process Theory (Evans, 2003). This theory analyses the operation of system 1 (automatic, fast and involuntary, essential in stressful, time lacking or critical survival situations) and system 2 (rational, involves slow, thoughtful thinking and deliberate decision making, used by humans only). System 1 is characterised by the use of heuristics, which essentially reduce the complexity of analysing probabilities and possible outcomes (Tversky and Kahneman, 1974). Heuristics help health professionals in particular to take immediate

decisions without delay to avoid errors, which is extremely useful in assessing cases or administering treatments when there is pressure or time constraints. However, heuristics can lead to systemic errors or biases. Segmenting options into arbitrary categories has been demonstrated to influence decisions regarding the distribution of choices or resources among those options. This phenomenon, known as partition dependence, is closely linked to diversification bias, where individuals tend to evenly distribute limited resources across a range of alternatives, often resulting in choosing a specific set of options even if they do not truly align with our preferences (Sonnemann *et al.*, 2013). Few published studies explicitly employ nudge theory, and are diverse in terms of settings, objectives, and outcomes. Previous studies utilizing commitment messages and peer comparison had the objective of investigating the effect of nudging on the reduction of antipsychotic agents prescribing for indications not supported by evidence and low value prescribing of antibiotics (Sacarny *et al.*, 2018) (Östervall, 2017). In another study conducted in the USA, the use of defaults –that is, pre-set courses of action that take effect if nothing is specified by the decision maker- in the electronic order search resulted in the rise of the proportion of generic drugs prescribed from 39.7% pre-intervention to 95.9% post-intervention (Malhotra *et al.*, 2016). In the greater Chicago area, prior research on which our study was based, with a sample consisting exclusively of primary care providers, documented an average 11.5%-point reduction across 7 clinical vignettes in the prescription of certain types of drugs, when these treatment options were presented in groups rather than individually (Tannenbaum *et al.*, 2014). In our research we examine the effect of nudging by grouping (partitioning) therapeutic options on the provider's treatment choice in 8 different clinical cases (vignettes) while incorporating the element of prescribing generics over their brand-name counterparts in order to save resources in the provision of healthcare services, using data collected from the medical personnel in health care facilities of the 3rd Regional Health System in Northern Greece.

## METHODS

The study is based on a convenience sample. The questionnaires included eight clinical vignettes describing symptoms of common infections. In antibiotic inappropriate vignettes (acute non-bacterial pharyngitis, acute bronchitis, acute nasopharyngitis and gastroenteritis) the prescription choices were divided into over-the-counter and prescription drugs while in antibiotic appropriate vignettes (otitis media, urinary tract infection, acute sinusitis, and cellulitis), into narrow/ broad-spectrum or generic/brand name drugs. Logistic regression was performed separately on each clinical case to assess the effect of clustering on the probability of prescribing “undesirable” treatments (prescription drugs, broad-spectrum antibiotics, brand-name drugs) by physicians. Statistical analysis was performed using SPSS.

## RESULTS

Partitioning in the e-prescribing system influences the choices of physicians with an average reduction of 22%, across 8 clinical vignettes in choosing “undesirable” treatments (prescription drugs, broad-spectrum antibiotics and brand name drugs). The scale of this reduction varies by clinical case, with more pronounced reductions in clinical cases requiring antibiotic administration (25% reduction on average), compared to clinical cases not requiring antibiotic administration (19% reduction on average). More specifically, in the clinical case of acute non-bacterial pharyngitis, 48% of the physicians selected prescription drugs when those were presented as separate options while only 16% of the physicians selected prescription drugs when those were presented in a grouped manner. Clearly, grouping had some effect, whether small or significant, in all instances of nudging physicians towards desirable outcomes across various clinical cases.

## CONCLUSIONS

Given the widespread use of e-prescribing, the grouping in treatment options interface may have a significant impact in guiding a prescribing system in meeting certain health policy goals regarding effectiveness and efficiency. In our study, in addition to the application of 8 clinical cases in various health care settings (hospitals, health centers, local health care teams), we also examined whether the grouping of treatment options encourages physicians to prescribe generic drugs. As the research is being carried out in a southern European country with limited resources in the healthcare sector, we believe that nudging in the electronic prescribing system can bring significant savings to both private and public hospitals as generic drugs cost about 80-85% less than their brand name counterparts. This kind of intervention apart from the cost saving aspect, can also complement the measures against over-prescribing, which is detrimental to the health of patients individually and collectively, given the increased likelihood of the development of antibiotic-resistant bacteria. Grouping treatment options can be a powerful tool in the hands of health care facilities management to achieve the most rigorous implementation of clinical guidelines and pathways, saving resources and optimising care.

*Keywords: e-prescribing, nudging, partition dependence, behavioral economics*

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# INCLUSIVE CULTURAL EXPERIENCES: AN EXPLORATORY INVESTIGATION OF METAVERSE ENHANCING EXPERIENCES FOR CUSTOMERS WITH DISABILITIES

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## ABSTRACT

The United Nations (2006) defined disabled individuals as “those who have long-term physical, mental, intellectual, or sensory impairments”. Also, disability hinders their ability to access public facilities and participate in daily activities (Bhogal-Nair *et al.*, 2023; Tuli *et al.*, 2023). Advancements in 21st-century technology have fostered discussions on accessibility and inclusion (Longo and Faraci, 2023) addressing a global social challenge for people with disabilities, who make up about 15% of the world’s population (World Health Organization, 2021; Tuli *et al.*, 2023). In particular, metaverse is emerging as a potential avenue for enhancing social and cultural implications (Dwivedi *et al.*, 2023). This technology has created impacts across various disciplines like marketing, where emphasis is placed on customer experience (Gursoy *et al.*, 2022) and individual well-being.

Given that technological advancements, like the metaverse, are intended to enhance human life, it is essential to evaluate how they are adopted by all individuals, despite their relative novelty (Aburbeian *et al.*, 2022). Scientific research has advanced the understanding of Technology Acceptance Model (TAM) (Davis, 1989) among various groups, including able-bodied individuals and those with specific disabilities (Iftikhar *et al.*, 2023). However, based on existing literature and our knowledge, TAM has not been applied to assess the acceptance of metaverse across all types of disabilities. By understanding how the metaverse fosters accessibility and inclusion, this study seeks to fulfill museums’ commitment to openness, accessibility, and public education (Poria *et al.*, 2009). Removing physical, economic, and social barriers, the metaverse facilitates the integration of disabled individuals, empowering them to feel included (Vaz *et al.*, 2020; Iftikhar *et al.*, 2023). Despite recognition of the importance of including customer with disabilities (CwDs) in arts activities by both institutions and scholarly literature (European Commission, 2021; Lu *et al.*, 2022), there remains a notable gap in the research understanding of the role that metaverse has for CwDs. Due to the relevance of the above topics, this work-in-progress paper aims to explore how art-related spaces such as museums can enhance accessibility and inclusion for CwDs through the metaverse, with the ultimate goal of pinpointing a set of strategies (Buhalis *et al.*, 2023; European Commission, 2021; Lu *et al.*, 2023; Tuli *et al.*, 2023). So, the following research question will be investigated:

*RQ1. How can museums benefit from the implementation of the metaverse to enhance accessibility and inclusion for CwDs?*

Based on preliminary research regarding the integration of the metaverse within museums, we intend to gather data from worldwide museums actively engaged in promoting accessibility, as mentioned on their websites. The exploratory nature of our research necessitated the adoption of a qualitative approach following the Gioia methodology (Gioia et al., 2013) through a multiple-case study design. This approach will enable us to delve into the phenomenon within its real-world context and extract specific cases to generate broader insights. Such a methodology will be ideal for exploring and analyzing complex and emerging social and business phenomena (Yin, 2017), thus bolstering the reliability of our empirical findings (Eisenhardt & Graebner, 2007). Specifically, our analysis will focus on three museums that have implemented metaverse, employing semi-structured interviews as the primary method of data collection. Further details regarding the sample, where the museums are termed adopting Greek alphabet terms to ensure confidentiality, are provided in Table 1. Furthermore, for the collection of primary data, the authors will employ data triangulation, seeking the participation of different museum employee, to mitigate the limitations of relying solely on a single data source (Jack and Raturi, 2006). Moreover, secondary data from the museums' websites will be included in the data collection for a comprehensive analysis.

*Table 1. Analysis sample profile*

| MUSEUMS | THE DATE OF INTRODUCTION OF THE METAVERSE | COUNTRY |
|---------|---|---------|
| A       | 2023                                      | USA     |
| B       | 2023                                      | UK      |
| Γ       | 2022                                      | USA     |

As the research progresses, it is anticipated that several theoretical and practical implications will emerge from the results, alongside the originality of the study. From a theoretical perspective, it will deal with synthesizing the current body of knowledge regarding the use of the metaverse,

particularly within art-related contexts where the convergence of social issues and technology is garnering heightened interest among scholars and practitioners. Then, the research will contribute to the existing literature on metaverse application by extending it to CwDs without focusing on any specific disability, and consolidating knowledge on its impact. The focus on the metaverse as technology enrich its scientific comprehension, acknowledging the significance of continued substantial advancements (Dwivedi *et al.*, 2023). Furthermore, the theoretical model derived from TAM with the integration of disabilities, that will be developed and tested in our study, will have the potential for future exploration in in other contexts and industries. Differently, practical implications will include the need to promote diversity through staff training, but also to foster inclusive practices among cultural operators as expanding accessibility to all customers can provide a competitive advantage over those who do not prioritize it. Additionally, the engagement of local authorities and political support will emerge as crucial for acquiring necessary resources, recognitions, and investments. Finally, this commitment will lead to the improvement of the reputation of artistic environments, directly contributing to the local economy.

*Keywords: Disabilities; Customers with Disabilities (CwDs); Accessibility; Inclusion; Technologies; Technology Acceptance Model (TAM); Metaverse; Museums; Qualitative Approach; Multiple-case study; Gioia Methodology.*

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# AGENCY AND STEWARDSHIP PERSPECTIVES: EVALUATING THE IMPACT OF PROMOTER AND NON-PROMOTER DIRECTORS' PAY ON FIRM PERFORMANCE

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## ABSTRACT

We examine the impact of remuneration paid to promoter directors and non-promoter directors on corporate financial performance for a sample of Indian non-financial firms. Extending empirical support to the agency theory, our findings suggest that promoter director remuneration affects firm performance positively. Our results also lend credence to the 'tunneling hypothesis' in an emerging market context since the positive impact of promoter director remuneration on profitability is found to be less pronounced for group-affiliated firms than non-affiliated firms. Further, our findings show that the positive effect of promoter director remuneration on profitability is stronger for firms that are characterized by CEO duality. In addition, our results do not provide conclusive evidence for a relationship between non-promoter director remuneration and firm performance, thereby highlighting the relevance of stewardship theory since remuneration alone does not seem to be a motivating factor for non-promoter directors to contribute towards firm profitability and wealth creation.

*Keywords: Board remuneration, firm performance, emerging market, business groups, CEO duality JEL*

*Classification Codes: G30, G32*

# **INTRAPRENEURIAL DYNAMIC CAPABILITIES AND DIVERSIFICATION: A MULTILEVEL ANALYSIS.**

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## **ABSTRACT**

## **INTRODUCTION**

COVID-19 has been a trigger for diversification for many companies worldwide (Tokbolat and Le, 2022). American multinationals such as General Motors and Ford, for example, began manufacturing respirators. The literature on diversification has focused on the degree of diversification, the more or less related nature of activities (Benito-Osorio et al, 2012) and the link between business diversification and performance (Sohl et al, 2022). So far, little work has focused on contingency factors such as the modalities of development towards new activities and the management of diversification strategy implementation.

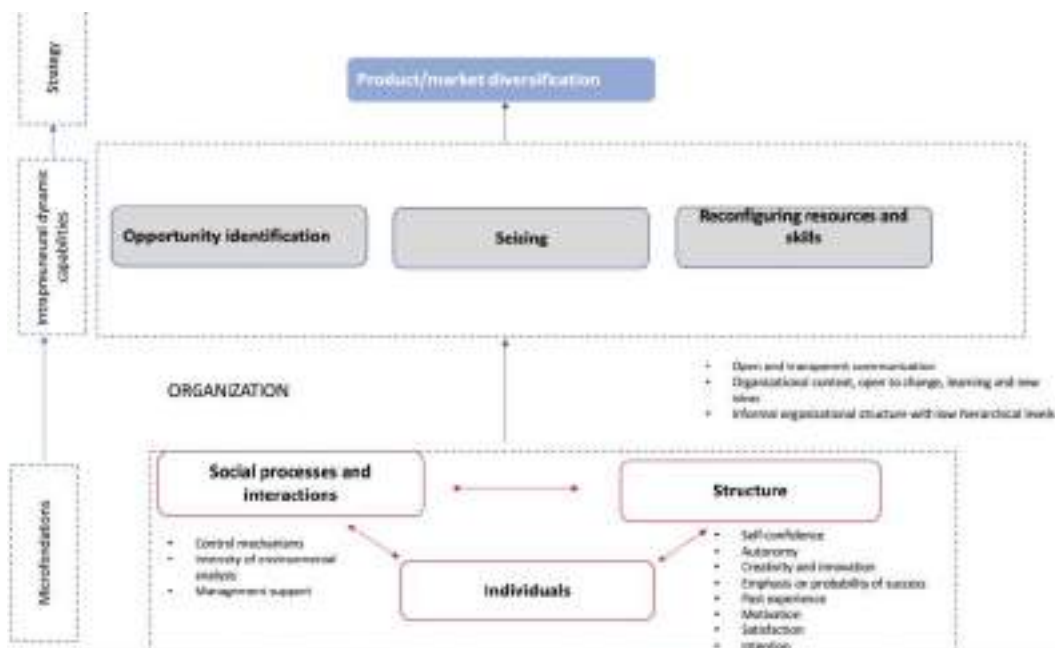
Intrapreneurship or Corporate entrepreneurship represents important activities within existing companies, enabling continuous innovation that translates, into the development of new products and services as well as new markets (Marques et Marques, 2019). Intrapreneurship also refers to the process by which companies engage in diversification through internal development. This diversification requires new combinations of resources to expand the company's activities into related or unrelated areas (Sohl et al, 2022). Intrapreneurship and diversification cannot be considered as two totally distinct concepts (Antoncic and Hisrich, 2003). Thus, the diversification of an established company into new activities in terms of products/markets can be considered intrapreneurial activities, since they represent a change from the initial orientation (Antoncic and Hisrich, 2003).

Intrapreneurship is a bottom-up, multi-level concept that can affect different organizational levels (individual, team, and organization) (Petra et al, 2019). The first step in an intrapreneurial process is identifying the opportunity. The second step is implementing the intrapreneurial idea and exploiting the opportunity (Kraus et al, 2019). It involves reconfiguring resources around an opportunity.

Indeed, little is known about the mechanisms by which intrapreneurial capability develops and influences organizational outcomes such as product/market diversification strategy. Hence, it is important to develop an integrative framework of these different levels to better understand the antecedents of intrapreneurship and the link with diversification.

In this paper, we integrate Teece's (2007) perspective of dynamic capabilities (the ability to identify, seize and reconfigure) with the concept of intrapreneurship, and highlight the major role played by intrapreneurial dynamic capability - the ability to identify an opportunity, seize it internally and reconfigure - in the product/market diversification strategy. This study focuses on the behavior of individuals and/or small collectives, processes and structures understood as micro-foundations (Felin et al., 2012). The basic motivation of this approach is to decompose theoretical constructs at the macro level into actions and interactions at the level of organizational members (Felin et al, 2012). Indeed, the literature distinguishes two types of antecedents to intrapreneurship: (1) organizational factors related to organizational culture and management practices that foster knowledge sharing, creativity, innovation and change; and (2) individual factors mainly related to attitudes and skills that drive innovation and change (Marques et Marques, 2019). From all these insights, we can advance the conceptual model, which details the microfoundations of diversification entrepreneurial orientation.

**Figure 1: An integrative microfoundations model of dynamic intrapreneurial capacities and the link with diversification**



## DISCUSSION AND CONTRIBUTIONS

Our conceptualization effort responds to calls from several authors to improve our understanding of the antecedents of intrapreneurship (Petra et al 2019) and diversification (Benito-Osorio et al, 2012). Dynamic capabilities view help to explain the dynamics of intrapreneurship activity within established organizations. It also complements the literature on diversification strategy, which has focused on the contributions of Resource Based View (Wernerfelt, 1984), in particular to study the business relatedness (Harrison, 1999).

Moreover, the two concepts of intrapreneurship and product/market diversification are cited in the literature as synonymous (Burgelman 1983; Antoncic and Hisrich, 2003), whereas our work highlights how dynamic intrapreneurial capabilities facilitate diversification.

Also, and in contrast to dominant works that focus either on the organizational level of intrapreneurial antecedents (Alpkan et al. 2010; Lages et al, 2017), or on the individual level (Petra et al 2019; Goosen et al. 2002), our approach allowed to integrate in the same theoretical framework processual, structural and individual dimensions to influence intrapreneurial dynamic capabilities that facilitate diversification strategy. Finally, our research also contributes to opening up the field of corporate entrepreneurship (Burgelman 1983; Antoncic, 2007) to the diversification strategy literature (Sohl et al, 2022), microfoundation approaches (Felin et al, 2012), as well as dynamic capabilities (Teece, 2007).

Our conceptual model can help executives and managers better understand the link between intrapreneurship and diversification, and the antecedents of this relationship at individual, process and structural levels. The links between these two concepts lead to a dyadic effect: fostering the conditions for intrapreneurship within an organization is also likely to improve diversification.

Our study contributes to the literature on coopetition (Bouncken and Kraus 2013) by paving the way towards alternative approaches to classic works that study the nature of the relationship and the associated value creation. Also, it answers the call towards more work focusing on the particular case of collaboration between startups and large mature companies (Chappert et al, 2023; Bouncken et al. 2015). Secondly, this work responds to several calls in strategic management to better understand the microfoundations of dynamic capabilities (Palmié et al, 2023).

Our qualitative approach has enabled us to study this phenomenon in depth. This work opens the way to designing structures, processes and interactions between individuals, enabling large mature organizations and small technology startups to compete in order to innovate.

*Keywords: Diversification, corporate entrepreneurship, microfoundations, dynamic capabilities*

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## THE KNOWLEDGE SUSTAINABILITY MODEL

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### ABSTRACT

Sustainability is a key area of scientific research and our everyday lives. Different scientific disciplines, both separately and in combination, are trying to define sustainability criteria. At the same time, the issue of sustainability of knowledge, which is the basis for all further research, is being overshadowed. The theoretical research aims to develop a sustainable knowledge management model. It goes beyond the typical expectations of sustainability (such as the protection of the environment, the necessary use of renewable energy sources, etc.). It thinks at a scale that seeks not only to create the physical conditions and theoretical possibilities but also to imagine the conditions for an innovative future, while also achieving organisational well-being (happiness). It is based on the GNH of Business assessment methodology, first used in the Kingdom of Bhutan (and since then adopted in many other countries). It provides tools for the economy and society to identify appropriate (parallel and continuous) development directions. The model takes a holistic approach to the synergy between organisational well-being and knowledge sustainability.

*Keywords: trust; sustainable knowledge; artificial intelligence; model; knowledge management, GNH of Business*

## BEYOND TRADITIONAL BUDGETING: A CRITICAL ANALYSIS OF CONTEMPORARY PRACTICES IN GERMAN CORPORATIONS

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### ABSTRACT

This paper delves into the evolving landscape of budget planning in the context of recent global crises, such as the COVID-19 pandemic, the war in Ukraine, and the semiconductor crisis. Not only these events have compelled organizations to reevaluate traditional budgeting methods, advocating for more flexible and resilient approaches. Notably, traditional budgets have long been criticized for their time-consuming nature, costliness, lack of long-term growth focus, inflexibility, and the promotion of counterproductive budget games. By applying a qualitative semi-structured interview approach our study focuses on filling a critical gap in existing literature, which predominantly comprises quantitative analyses and case studies, by providing detailed insights into the practical advantages and challenges of budgeting from the perspective of practitioners. Particularly, it contributes to the discourse by incorporating practices from German firms and updating the practitioners' viewpoints on budgeting in crisis-prone and uncertain environments.

*Keywords: Budgeting, Corporate Planning, Challenges, Advantages, Interviews*



## FINANCING OPPORTUNITIES FOR FIRMS: DO SUSTAINABILITY AND DIGITALIZATION- RELATED ISSUES MATTER?

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### ABSTRACT

In the evolving financial landscape, the integration of Environmental, Social, and Governance (ESG) factors into investment decisions and financial analyses has become increasingly paramount (Ng and Rezaee, 2015; Eliwa *et al.*, 2021; Serafeim and Yoon, 2023). This integration marks a paradigm shift from a traditional approach predominantly focused on financial metrics to a more holistic one, where non-financial factors are acknowledged as critical determinants of a firm's long-term viability and risk profile. Accordingly, over the years, financial intermediaries and capital markets participants have increasingly paid attention to ESG scores to make informed decisions, determine risk propensity, and assess the standing of a company compared to its peers (EBA, 2019; La Torre *et al.*, 2021; D'Apolito *et al.*, 2024). In light of these considerations, understanding whether and how higher ESG performance influences a company's access to financial markets, as well as the cost of funding is critical for all market stakeholders, including capital providers, borrowers, and policymakers.

A growing body of research has started to empirically examine whether banks and capital markets participants assign any monetary value to firms' commitment to ESG issues. Many studies show that efficient implementation of ESG practices enhances corporate financial performance, resulting in lower cost of debt (e.g., La Rosa *et al.*, 2018) and cost of equity (e.g., Ng and Rezaee, 2015) relative to firms with low ESG scores. Nevertheless, other scholars find no evidence of this relationship (e.g., Menz, 2010; Hoepner *et al.*, 2016), suggesting that financial markets may not consistently recognize or assign monetary value to firms' commitment to ESG objectives.

Hence, the literature suggests that higher ESG performance can either benefit or harm the company's access to financial markets (Ali *et al.*, 2023; Li *et al.*, 2024). Yet, to date, there is a distinct lack of research regarding the conditions through which better ESG performance facilitates a company's access to funding.

We seek to contribute to this line of research by examining when high firms' ESG performance facilitates a company's access to funding. In this respect, we focus on corporate digital efforts as a key contingency factor of the relationship between firms' ESG performance and the cost of funding. Digital technologies are revolutionizing how companies innovate, operate, and engage with stakeholders, offering them a competitive edge (Wang *et al.*, 2023) that could extend to enhanced ESG performance and financial outcomes (Hilali and Manouar, 2020; Broccardo *et al.*, 2023). By leveraging digital

technologies, corporations can indeed enact transformative changes in their operational processes, organizational structures, and business models, thereby significantly enhancing their ability to implement effective ESG practices (Lu *et al.*, 2023). Furthermore, enhanced digital engagement tools can foster stronger relationships with investors and the community, positively affecting the company's reputation (Asif *et al.*, 2023) and possibly its access to funding. Hence, based on the considerations above, we posit that digitalization acts as a significant contingency factor of the relationship between firms' ESG performance and the cost of funding.

Empirically, we test our hypotheses on a sample of listed Italian non-financial firms over the period 2017–2022. Data on ESG performance come from Refinitiv Eikon, hosted by Thomson Reuters, while the economic and financial variables were gathered from both the AIDA (Bureau Van Dijk) and Refinitiv databases. Qualitative, nonfinancial information regarding the sustainability of the firms' business models was hand-collected from public business documents (annual reports, non-financial statements and corporate governance reports). Finally, to measure companies' digitalization efforts we developed an index by identifying and analyzing digitalization-related keywords in the annual reports and non-financial disclosures of firms. Notably, starting with the creation of a keyword lexicon, which includes terms closely associated with digital technologies and innovations (e.g., artificial intelligence, machine learning, blockchain, big data, among others), we proceeded to extract these keywords from corporate documents. The number of occurrences of these keywords was then divided by the total number of pages of the reports in order to assess the intensity of digitalization efforts within the firms.

This study aims to contribute to the literature in different ways. Firstly, we aim to enrich the understanding of the dynamics between firms' ESG profile and their funding by examining the influence of corporate digital efforts on this relationship. Thereby, we provide first empirical evidence on when higher ESG performance influences a company's access to funding. Secondly, our research sheds light on the underexplored area of how digitalization can support the implementation of sustainable practices within firms (e.g., Hilali and Manouar, 2020; Broccardo *et al.*, 2023). Particularly, by examining the interaction effects of digitalization on sustainability implementation, we provide a more comprehensive understanding of the digital pathways that can enhance ESG performance and, by extension, influence a company's financial and market positioning.

*Keywords: Sustainability, ESG, digitalization, funding, cost of capital*

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# TOP MANAGERS' LEADERSHIP AND ARTIFICIAL INTELLIGENCE: INSIGHTS FROM A BIBLIOMETRIC AND CONTENT ANALYSIS

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## ABSTRACT

### 1. RESEARCH POSITIONING AND RESEARCH QUESTION DEVELOPMENT

Around four decades ago, Holloway (1983, p. 89), advanced the prediction of a supercomputer that "could share or usurp the functions of a company CEO". Such a sophisticated computer system, identified as a thinking robot, would express functions traditionally thought to be exclusively human until that time (Pereira et al., 2023). The COVID-19 pandemic, in the early 2020s, also acted as a catalyst, compelling businesses to face an unprecedented challenge: digital transformation (Bresciani et al., 2021; Makarius et al., 2020). As a result, this era is characterized by continual technological progress leading to a comprehensive revolution in how companies operate and manage their resources (Kraus et al., 2023). At the heart of this transformation lies artificial intelligence (AI), one of the driving forces of this paradigm shift (Enholm et al., 2022). The significant role of AI, thanks to the capacity to analyze extensive data, automate complex tasks, and provide predictive insights, promises to unlock new opportunities, and enhance operational efficiency in the business environment (Pereira et al., 2023). However, the successful implementation and use of AI rely not solely on the technology itself, but above all on the top managers' leadership to adapt to new paradigms and lead organizations toward digital maturity (Berente et al., 2021). Therefore, business leaders play a crucial role in fostering the organizational implementation of AI, thereby promoting a digital culture, allocating resources, and managing human resources (Fernandez-Vidal et al., 2023). The Upper echelons theory (Hambrick & Mason, 1984) has provided insights into the impact of top managers' competencies and skills on organizational performance and strategies, yet few studies have investigated digital and AI implications (Firk et al., 2022; Doornenbal et al., 2022). Indeed, despite the growing attention garnered by this emerging research field in recent years (Kraus et al., 2023; Chowdhury et al., 2023), the literature remains fragmented.

Therefore, as Secundo et al. (2020) suggested, a systematic literature review (SLR) is performed based on three research questions.

**RQ1.** What are the bibliometric trends of AI leadership research?

**RQ2.** Which research areas have been explored in the literature?

**RQ3.** What are the future lines of research in the field?

## **2. RESEARCH DESIGN**

In response to the advanced research questions, the SLR employs bibliometrics (most influential authors, articles, and journals) and content analysis to examine how prior studies have addressed the influence of AI on top managers' leadership. Therefore, the authors conducted a keyword search on the Scopus database of paper titles, abstracts, and keywords using the following search string: ("top manager\*" OR "senior executive\*" OR "leader\*" OR "digital leader\*" OR "virtual leader\*") AND ("artificial intelligence" OR "digital transformation" OR "AI" OR "machine learning" OR "deep learning"). This search yielded 6386 documents, which were then refined by filtering for document type, research area, and language. The data extraction process identified 63 peer-reviewed articles.

## **3. FINDINGS**

Three research themes emerged from the bibliometric analysis of the sampled articles, providing a basis for the content analysis: (1) the disruptive impact of AI on top managers' competencies and skills (Larson & DeChurch, 2020; Firk et al., 2022), (2) determinants influencing top managers' choices regarding AI adoption within enterprises (Enholm et al., 2022; Doornenbal et al., 2022), (3) strategic use of AI to gain competitive advantage and improve organizational performance (Chowdhury et al., 2023; Kraus et al., 2023).

## **4. THEORETICAL CONTRIBUTIONS AND IMPLICATIONS FOR PRACTITIONERS**

The study will offer its contribution by clarifying and systematizing how AI has revolutionized top managers' leadership in business processes. This will be of interest both to practitioners and academics. Firstly, our research contributes to the expanding body of literature exploring the intersection between managerial actions, particularly those related to top manager leadership, and the ongoing digital transformation process driven by AI in companies. Secondly, we aim to provide a contribution to the Upper Echelons Theory by Hambrick and Mason (1984), upon which this study is based. Indeed, a thorough review of the academic literature on this theory reveals that studies exploring the role of top managers have rarely considered the impacts of digitization, overlooking the influence of AI on the leadership of top managers. Finally, future lines of research will be outlined to further explore this domain.

*Keywords: Leadership, Top Managers, Digital Transformation, Artificial Intelligence; Upper Echelons Theory*

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## **SOCIAL MEDIA'S ROLE IN FOSTERING RESPONSIBLE AND SUSTAINABLE BEHAVIOUR AMONG YOUNG PEOPLE OF GENERATION Z**

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### **ABSTRACT**

#### **1. INTRODUCTION**

In recent decades, the advent of social media has revolutionised the global social fabric, radically changing human culture and communication patterns, information dynamics, behavioral patterns, and inevitably transforming social interactions (Das, 2023; Tang e Chan, 2020; Ye, 2023). According to Statista's 2024 report, the social media phenomenon globally involves 5.04 billion of people (62.3 per cent of the world's population), an involvement due to the possession and use of a social profile whose average daily global usage is estimated at 143 minutes (Statista, 2024). The main beneficiaries of this digital revolution are young people, who, having grown up in the age of social media, have readily integrated the use of such tools into their daily routines, suffering the social influence effects (Sijtsema et al., 2009; Sun e Tang, 2011; Simpkins et al., 2013).

An acknowledged role of social media, as noticed by several authors (Takahashi et al., 2017; Han and Cheng, 2020), concerned its ability to raise awareness of environmental and social issues among the population, particularly the younger population. Takahashi et al. (2017), showed how media can keep people informed about environmental issues, encouraging them to engage in environmental citizenship and act more sustainably. In particular, as Han and Cheng (2020) find, this effect is greater for social media. In particular, social media influence pro-environmental behaviour by reinforcing the demonstration effect of interpersonal communication that occurs on social media and by disseminating information that can increase awareness and vigilance on these issues. In contrast, there are few studies on the effects of social media in fostering more sustainable behaviour among the younger generation, particularly Generation Z (Chen and Madni, 2023; Morris, 2020). In light of this, with the intention of filling this gap, this study aims to assess the impact of social media campaigns in fostering the adoption of sustainable behaviour among young people of the Generation Z and in promoting an increase in their awareness and sensitivity to these issues. It also aims to evaluate the extent to which environmental knowledge can play a mediating role in fostering greater environmental awareness and engagement.

## 2. LITERATURE REVIEW

Several studies assessed how the use of social media and the consequent exposure to environmental information are effective, for example, in raising awareness of these issues, in fostering the intention to adopt pro-environmental behaviors or in encouraging the purchase of 'green' products (Jacqmarcq, 2021; Xu et al., 2020; Scherman et al., 2021; Pittman et al., 2021). Huang (2016) found how frequent use of online and traditional media is positively related with environmental beliefs and environmental self-efficacy, factors that can foster the environmental activism. In particular, as Shah and co-authors (2021) emphasized, individuals exposed to social media information about environmental pollution develop a fear of victimisation, which can promote the adoption of sustainable behaviour. These pro-environmental behaviours can also be reflected in the choice of sustainable products due to the significant impact of social media on purchase intention that is reinforced by the environmental concern fostered by access to environmental information as emerged in the study of Chi (2021).

Furthermore, many studies have identified environmental knowledge as an important factor in promoting pro-environmental behaviour (Zsóka, 2013; Vicente, 2013). Liu et al. (2021), for example, identified how the use of the internet and social media also indirectly influences pro-environmental behaviour through the positive mediating effects of environmental knowledge. This result is consistent with Awan and co-authors (2022) study that identified how the acquisition and dissemination of environmental knowledge through social media are one of the mechanisms underlying the process to foster the adoption of sustainable behaviour by web-users.

## 3. METHODOLOGICAL APPROACH AND RESEARCH MODEL

In order to be able to analyse the phenomenon that links the use of social media to the adoption of sustainable behaviour among young people of the Italian Generation Z, a questionnaire was developed organized into six sections. The first section acquired information on the respondents' level of social involvement when exposed with a plastic pollution campaign using the scale proposed by Schivinski et al. (2016). The second section of the questionnaire investigated respondents' emotional engagement with the pro-environmental social campaign (Chen et al., 2008; Alsaad et al., 2023). The third section aimed to assessing the respondents' attitude to adopt pro-environmental behaviour using the scale proposed by Lee (2011). The fourth and fifth sections acquired information, respectively on the respondents' environmental activism (Awan et al., 2022) and on the respondents' environmental knowledge (Xiao and Hong, 2010). The final section collected the socio-demographic characteristics of the sample under study (age, gender, level of education and city of residence). After being tested by a control sample for completeness, clarity and comprehensibility, the questionnaire was shared on social media platform obtaining a total of 205 responses. The sampling method used is snowball



sampling, a method that exploits interpersonal relationships between individuals in order to obtain the largest number of participants.

#### 4. RESULTS AND DISCUSSION

The results obtained partly confirm the findings of previous empirical studies. This study found that the social campaigns in favour of the environment leads to an involvement of respondents with the topics discussed, but limited to certain forms of reaction. This would suggest little interest in more meaningful actions of generation Z web-users. In contrast, concerning the emotional involvement from viewing a pro-environmental campaign, results show a strong awareness of respondents regarding environmental issues displayed through social media campaigns. This tends to create an increase in predisposition to commit to the environment and, in particular, take responsibility for one's actions as previously emphasized by Alsaad and colleagues (2023). But the transition from the predisposition to commit to the environment to the actual implementation of such actions is favored or limited by certain factors. In fact, the data show how, on the one hand, active commitment often tends to clash with the lack of sustainable alternatives, with needs or limitations in one's private sphere. On the other, how this is favored by the relationships that bind environmental activism to the simplification of a specific action, from economic savings or from the mediation of psychological and cognitive factors. This finding is confirmed in the study of Meng et al. (2023), who identify perceived pro-environmental behavioural control and pro-environmental attitude as factors favouring the intention to adopt pro-environmental behaviour. With regard to the data on the respondents' assessment of the level of environmental knowledge, it emerges that this is mostly diffused, among users, in those aspects that are most covered by the media, both classical and digital. Based on the results obtained, these would suggest an impact of environmental knowledge derived from social media in encouraging direct involvement with environmental issues. This data are, partially, according to which in line with the findings of Liu et al. (2021) and Simionescu et al. (2020) who find that the environmental knowledge acquired through social media platform can contribute to the protection of the environment, promoting the individuals involvement and willingness to adopt pro-environmental behaviors. These support the thesis that sees environmental knowledge, in particular that acquired through social media platform, as an extremely important factor in the processes of raising public awareness of environmental issues and the adoption of more responsible and sustainable behaviours. Ultimately, the data show a strong emotional involvement of Generation Z with the environmental issues discussed on social media. This, however, results in limited social reactions, as if the majority of young respondents do not want to become active participants in the process of raising awareness on environmental issues. With regard to active engagement in the

environmental field on the part of Generation Z, this comes up against factors that tend to limit or favour it such as, for example, actions performed by friends on social networking sites that influence, and thus favour, the implementation of the same actions. Finally, with regard to environmental knowledge, specifically that derived from social media, this appears to play an important role in the processes of raising awareness and increasing responsibility towards the environment.

## 5. CONCLUSIONS

This study investigated the complex relationship between the use of social media and the adoption of responsible and sustainable behaviour in the Italian Generation Z. The results show that social media have become extremely important in fostering greater awareness and sensitivity among young people towards environmental issues. Young Italians of Generation Z, in particular, are very emotionally involved with pro-environmental campaigns on social media, but mostly show passive forms of participation. Despite the high attitude of the participants to adopt more responsible behaviour and the high emotional involvement with the issues dealt with, these aspects do not always result in forms of active participation in protecting the environment. Finally, in relation to environmental knowledge, this was found to be fairly widespread among the participants, mainly in the aspects most discussed in social media, suggesting a definite influence of this in fostering greater involvement with the issues and the adoption of more sustainable and responsible behaviour on the part of the Italian Z generation.

This research contributes to enriching the literature on the role of social media as a tool to promote pro-environmental behaviour among individuals. Compared to previous empirical findings, the present study investigates the effects of exposure to pro-environmental social campaigns on the adoption of sustainable and responsible behaviour in Generation Z. Furthermore, the study investigates the ability of the environmental knowledge variable in influencing attention to these issues and the adoption of sustainable and responsible behaviour.

Understanding the influence of social media on the environmental attitudes and intentions of Generation Z is essential to develop targeted actions and effective strategies on social media to promote more responsible behaviour. Furthermore, the study and understanding of behavioural patterns related to environmental awareness through the use of social media is relevant to fostering a greater culture of responsibility and awareness in the digital world that encourages concrete actions aimed at protecting the environment. Given the in-depth knowledge and ease of use of social media by young people, it is important to involve them in the process of developing policies and initiatives

based on the use of social media. In this way, it will be possible to use social media to safeguard one of the most important common goods we possess.

*Keywords: responsible behavior, environmental protection, pro-environmental attitude, awareness, environmental knowledge, social influence.*

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## GREENWASHING PRACTICES AND CROWDFUNDING CAMPAIGNS

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### ABSTRACT

Crowdfunding serves as a crucial alternative financing avenue (Battisti et al., 2024). Through online platforms, businesses can access funds from a broad spectrum of backers via public offerings (Ferreira et al., 2022). While global crowdfunding platforms and their financial contributions continue to expand, they often grapple with the challenge of long-term sustainability (Belleflamme et al., 2015). Against the backdrop of escalating economic, environmental, and social concerns, environmental sustainability has emerged as a cornerstone of corporate social responsibility (CSR) (Fosu et al., 2024). Moreover, commitments to environmental initiatives play a pivotal role in cultivating robust customer relationships, fostering loyalty (Dagger et al., 2011). Given these dynamics, it appears enticing for companies to spotlight their environmental commitments and endeavors on crowdfunding platforms. However, does this practice align with reality?

Upon reviewing the literature, it becomes evident that scholars hold divergent views regarding the allure of environmental commitment and action. On one hand, Pursiainen et al. (2024) found that projects with environmental commitments garnered fewer supporters. Conversely, Bhuiyan et al. (2021) observed that independent boards of directors are more inclined to endorse environmentally focused investments, potentially alleviating conflicts of interest among stakeholders. These findings imply that while environmental commitment theoretically enhances investment appeal, practical outcomes may vary. Additionally, public support emerges as a crucial lever for firms to actualize environmental commitments (Benito-Hernández et al., 2022). Nevertheless, some companies may embellish the actual impact of their environmental initiatives to gain a competitive edge, thereby engaging in what is termed as greenwashing (Parguel et al., 2015; Zhang, 2023).

On crowdfunding platforms, greenwashing behaviors can potentially influence firms' fundraising success and impact consumer trust and engagement. Consequently, this study addresses the following research questions: i) To what extent do firms' environmental commitments or actions affect the success rate of crowdfunding projects? ii) How does greenwashing behavior influence the crowdfunding success rate of projects that make environmental claims? iii) What is the significance of supporter trust in the relationship between greenwashing and crowdfunding success rate?

This study employs a quantitative research methodology, analyzing data from companies that conducted fundraising on major crowdfunding platforms between 2018 and 2023. It focuses on comparing companies that have made environmental commitments with those that have not issued

any environmental statements, then takes an assessment of the impact of environmental commitments on fundraising success within these platforms. Data collected include fundraising amounts, number of backers, project descriptions, frequency of updates, and other relevant metrics related to environmental commitment projects. A logistic regression model will be employed to analyze the relationship between the presence of environmental commitments and project success rates, while trust indicators will be utilized to measure backers' trust in the project.

From a theoretical standpoint, this study offers empirical evidence regarding the influence of environmental sustainability within the crowdfunding domain by systematically examining the relationship between environmental commitment and crowdfunding success. While previous research has shown that substantial environmental claims within crowdfunding campaign narratives positively correlate with campaign success, this relationship is noted to vary across different project categories (Rossolini et al., 2021; Defazio et al., 2021). However, empirical evidence on the relationship between greenwashing and crowdfunding success remains scarce and inconclusive.

Moreover, through the exploration of greenwashing and crowdfunding success rates, this study aims to develop trust indicators to evaluate the impact of backer trust on this relationship.

In terms of practical implications, the findings of this study can assist crowdfunding platforms in identifying and regulating potential greenwashing behaviors, thereby bolstering the credibility and appeal of these platforms. By leveraging these insights, crowdfunding platforms can devise more robust policies to promote genuine and transparent environmental commitments. Additionally, enterprises stand to benefit by comprehending the specific impact of environmental commitments and actions on crowdfunding success rates. This understanding can inform their marketing strategies and corporate social responsibility initiatives, enabling them to make informed environmental investments that enhance fundraising efficiency and public perception.

*Keywords: Greenwashing; Crowdfunding success rate; Crowdfunding platform; Environment commitment.*

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## DIGITAL TRANSFORMATION: UNVEILING THE IMPACT OF DIGITAL SHOPPING ON EMPLOYEE COMMITMENT

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### ABSTRACT

Textile retailers have established online services, e.g., live-stream shopping events (Baersch et al., 2022) due to global challenges, like the COVID-19 pandemic. This led to an increase in online sales (Handelsverband Deutschland, 2023). Numerous studies deal with the testing of technologies in stores for consumers, like smart mirror fashion technology (digital fitting of clothing) (Ogunjimi et al., 2021). So, “new technologies, which are expected to profoundly change the stationary retail’s service” (Meyer et al., 2020, p. 21) are of paramount importance for both consumers and frontline employees (FLEs). However, the perspective of the FLEs has been nearly forgotten. Since the COVID-19 pandemic, the number of applicants decreased significantly (EHI Retail Institute, 2021). Moreover, it is becoming more and more challenging for companies to retain FLEs, which is very important (Ali and Anwar, 2021) since retention management is somehow replacing recruitment in the war for talent.

This paper is built on acceptance research models (Kollmann, 1998; Lucke, 1995) and the unified theory of acceptance and use of technology – UTAUT2 (Venkatesh et al., 2012). In the field of medicine and in companies (with a focus on e-learning), studies deal with the acceptance of technology in employees’ day-to-day work (Solbrig and Honekamp, 2022; Stiller and Wager, 2023). Based on the results of the studies, we assume that it is important to involve FLEs in textile retail at an early stage in the process of digital transformation in order to achieve a high level of technology acceptance. Thus, we investigate how the digital transformation affects employee commitment. Existing studies focus on the acceptance of technologies like service robots by FLEs (e.g., Meyer et al., 2020). These robots are understood as new colleagues in the store while our analysis focuses on relocating the business to an online environment, which probably also enables more spatial as well as time flexibility for FLEs. Thus, inspired by the analysis of Meyer et al. (2020), who additionally called in this regard for quantitative analysis, we strive for quantitatively analyzing the impact of digital shopping events on variables related to FLEs, representing the gap. Thus, the following research question is raised:

RQ: How does the introduction of digital shopping affect the affective commitment of FLEs?

In order to answer the research question, a conceptual framework will be developed, based on the UTAUT2 as well as the Job Demands-Resources Model which explains the nexus between resources (like technology) and FLE motivation as well as demands (e.g., necessity to use technology) and



strains, like stress (Bakker and Demerouti, 2007). Thus, the UTAUT2 will be enhanced by including the following additional constructs: Digital stress (Fischer et al., 2021), employee satisfaction (Spector, 1985) and affective commitment (Allen and Meyer, 1990) According to Whang and Dabas (2022), it is important to examine stress, as there are stress factors that have a positive and those that have a negative effect on FLEs. Affective commitment affects the turnover intention of employees negatively (Mathieu et al., 2016). Derived from the enhancement of the UTAUT2, hypotheses were developed, constituting the conceptual framework. This will then be analyzed by using partial least squares structural equation modeling (PLS-SEM) (Hair et al, 2022). The sample focuses on FLEs, i.e., the nearly forgotten perspective. This finally enables us to close the research gap, as the FLEs' perspective as well as the effects on FLEs-related constructs will be analyzed quantitatively.

Regarding the results of the analysis, it is expected that the introduction of digital shopping technologies will have a negative impact on the commitment of FLEs. In addition, insights are given into how FLE stress and satisfaction are affected. Moreover, due to the inclusion of digital shopping technologies, FLEs can probably work flexibly which again is beneficial for retention management (Tirrel, 2023; Tirrel et al., 2021). This study, therefore, provides an important contribution both, in theory and in practice, as companies can based on the analysis understand how, f.i., FLE loyalty is affected. Thus, we underline that the FLEs' perspective is as important as the consumers' perspective.

*Keywords: digital transformation, digital shopping, retail, employee perspective, acceptance research, employee commitment, PLS-SEM, textile retail, technology, frontline employees*

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## FROM FARM TO FUTURE: DIGITALIZATION AND SUSTAINABILITY IN ITALY'S AGRI-FOOD SECTOR

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### ABSTRACT

Radical innovations and paradigm shifts have occurred rapidly over the last decades (Baldwin, 2018). Among the phenomena that have characterized this recent era are the rapid technological development of human society and the simultaneous exponential increase in the effects of anthropogenic impact on ecosystems (Lynas et al., 2021).

Since its introduction by the German government during the Hannover fair in 2011, Industry 4.0 and its consistent part of digitalization have experienced great success, receiving the utmost attention from European national and regional institutions (Salkin et al., 2018). Furthermore, the business world and academia have embraced this paradigm widely (Massaro et al., 2021). From the business perspective, digitalized technologies and strategies seem to be an opportunity to innovate business models and processes along and within the value chain, so it is necessary to make the firm work more effectively and efficiently. According to the European Union, one of the main contributions of enabling digital technologies is to foster a transition to a sustainable, human-centric, and resilient European industry (Müller, 2020). Indeed, sustainability plays a central role in the international debate about the preservation of the planet and the future of human society. Also, the UN's Sustainable Development Goals (SDGs) and regulations like the EU's Directive 2014/95 underscore the importance of integrating sustainability into business operations. On their side, companies have increasingly recognized the role of sustainable practices in securing long-term profitability (Pucci et al., 2019), and responding to consumer demands for environmentally friendly products.

The sustainability impacts of digital transformation are increasingly gaining attention (Ghobakhloo, 2020) as well as the opportunities for more sustainable manufacturing thanks to the Industry 4.0 processes innovation, despite the impact of Industry 4.0 on economic, environmental, and social sustainability is not clear among the academia. To summarize, on one hand, radical innovation processes could foster efficiency and guarantee better economic and environmental performances, with a more positive impact than before, especially when a strategy to manage the interactions of workers and machines within the industrial context is present (Pucci et al., 2023). On the other side,

increasing production could bring negative social externalities, including the deployment of raw materials, over-use of energy, and waste production, along with unemployment due to mechanization and automation (Pilgrim, 2017).

The aim of this work is then to highlight the co-evolution of those two macro trends and their interactions. To do that, we collected data from 102 Italian agri-food SMEs in the period November 2021 – December 2023. Italy holds a prominent position in Europe's agri-food sector, contributing 15% to the continent's added value and standing fifth in employment. In 2022, the country's agri-food exports surged to a new high, exceeding €58 billion, showing continued growth into 2023 (Intesa Sanpaolo, 2023). In add, considering SMEs as investigation unit is particularly relevant since, as Tick et al. (2022) note, entrepreneurs in small and medium enterprises are aware of the importance of adhering to 4.0 and sustainability paradigms and the resulting benefits in terms of business ethics, consumer demand, reputational, and greater efficiency, but often lack effective implementation tools.

The data gathering was performed submitting a structured survey with 84 questions based on Schuh (2020) and Annunziata et al. (2018), used to assess the companies' technological maturity and orientation to sustainability. The information collected for each company included: age, number of employees, turnover, technological resources and competencies, sustainable practices and competencies. The preliminary results of our study showed a medium adherence to the Industry 4.0 paradigm of the analyzed companies, a predominance of the environmental dimension on the social one, with a positive relationship between digitalization and environmental sustainability, as well as no relevant short-term effect on financial performance due to digitalization processes. The idea is now to apply a PCA, a cluster analysis to group companies that share similar digital and sustainable dimensions. This approach is ideal for classifying observations into similar groups and developing a taxonomy.

## NOTE

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Keywords: digitalization, sustainability, SMEs, agri-food sector, social innovation.

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# THE ROLE OF PERFORMANCE MEASURES IN BALANCING RESILIENCE AND SUSTAINABILITY: INSIGHTS FROM LOGISTICS IN A LARGE-SCALE RETAIL COOPERATIVE

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## ABSTRACT

Supply chain sustainability and supply chain resilience have been investigated separately for the most part (Negri et al., 2021; Redman, 2014; Ivanov, 2018; Fahimnia et al. 2019). The literature on supply chain sustainability has been increasing remarkably all over the last decade, while supply chain resilience has attracted the interest of scholars and practitioners only recently, because of the numerous massive supply chain disruptions that occurred in recent years, starting from the COVID pandemic, and followed by others of multiple nature (Nikookar and Yanadori, 2022), such as a scarcity of critical resources impacting on various industries, international conflicts, and economic inflation. Supply chain sustainability is pursued through strategies aimed at improving performance under the economic, social and governance pillars (Hassini et al. 2012). Within the management accounting field, research on supply chain sustainability, largely focuses on the development of management and measurement frameworks for environmental-related aspects (Beske-Janssen et al., 2015; Shi et al., 2012; Shaltagger and Burrit, 2014), while there is still a lack of research for what concerns the social and governance perspectives (Ahi and Searcy, 2015; Fahimnia and Jabbarzadeh, 2016).

Multiple studies in supply chain management have supported the view that dynamic capabilities theory serves as a sound theoretical framework for examining the creation and adaptation of cross-organizational capabilities to adequately react to market or environmental changes. Even more recent is the interest of scholars on the interconnections between sustainability and resilience. The pursuit of sustainability and resilience in supply chain is synergic, under some perspectives, but it is controversial at the same time, which motivate the interest to deepen the research by adopting an integrated vision of the two concepts. Both sustainability and resilience initiatives involve a set of managerial capabilities needed to reduce risks, change, react, and improve, which largely are common. On the other side, the achievement of sustainability goals may reduce the resilience capacity of a supply chain and vice-versa. For example, sustainability initiatives, may aim at eliminating or reducing redundant resources (volumes of safety stocks, number of inventories, etc.) that are a potential source of waste or inefficiency, but which conversely assume a strategic importance in case of a sudden lack of availability. Supply chain resilience can help the analysis because it is the capability of an organization

to introduce changes in response to disruptions that alter a current state of equilibrium. Wieland and Durach (2021) consider resilience as an expansion of the risk management practices that are appropriate for a supply chain, given the abundance and unpredictability of the sources of risk that may threaten its equilibrium.

Similarly, improvements in sustainability should be pursued along the entire supply chain, consequently, companies should strengthen their partnership only with those suppliers that are really motivated and sensitive to sustainability issues. On the opposite, side, maintaining relationships with multiple alternative suppliers for the same good allows the company to buy the needed resources also in case of unavailability of one or more suppliers.

A resilient supply chain is a process designed to survive in a changing and turbulent environment. Consequently, a deeper understanding across multilevel initiatives is interesting to study and highlight the possible trade-offs between sustainability and resilience on the supply chain. In the literature, the number of studies integrating sustainability and resilience of supply chain is still limited (Fahimnia and Jabbarzadeh, 2016; Hiebl, 2024)). Moreover, a qualitative research approach seems coherent with the aim of the paper, which can be summarized with the following research questions:

RQ1: With turbulences or disruptions (risk reduction; sustainability development; logistics efficiency improvement), what are the distinctive proactive and reactive resilience attributes that shape dynamic capabilities useful for members and managers involved in logistics?

RQ2: How does PM (performance measures) support logistics managers in introducing sustainability initiatives?

RQ3: What is the role of PM (performance measures) in balancing tradeoffs between resilience and sustainability in logistics?

To favor an exhaustive exploration of this topic, the research is based on empirical evidence collected through a longitudinal case study (Yin, 2009). The case study analyzed in this paper concerns a supermarket chain structured as a cooperative. The stores of this Large-Scale Retail Cooperative are owned by entrepreneurs who are members of the cooperative itself. The Large-Scale Retail Cooperative is then an example of a “business cooperative” (Patmore et al., 2021), that is composed by a community of SME that cooperate to protect their competitiveness, while at the same time, they compete to increase their economic and social goals by taking advantage from the services supplied by the cooperative headquarter. The case investigated is interesting for that purpose, because it represents a context where multiple actors share common objectives, initiatives, and resources through cooperative collaborations. Moreover, relevant competitive dynamics occur between the cooperative and its members.

Furthermore, the Large-Scale Retail Cooperative operates in a turbulent environment where the pursuit of sustainability is only one of the several factors that impose the development of resilience capabilities, together with disruptive shocks due to the Covid pandemics, international conflicts, or scarcity of resources in several critical industry, only to make a few examples.

In this peculiar environment, the tradeoffs between sustainability and resilience are exacerbated, because sustainability is a pillar in the mission of the cooperative, while the members prioritize the financial performance of their stores and are aligned with the introduction of reactive resilience initiatives.

Consequently, the misalignment of strategic priorities between the cooperative and its members can create tensions in the achievement of sustainability initiatives that management control and performance measures may help to mitigate. The research is valuable to contribute to multiple literatures as well as to provide important practical results.

## FINDINGS AND DISCUSSION OF RESULTS

The entrepreneurial and mutualistic model, both among members and with the territory, is structured according to three levels. Starting from the bottom, there are the cooperative members, that own the associated sales points. They represent the local operational and decision-making actors of the Large-Scale Retail Cooperative. At the upper level, there are regional cooperatives provide administrative, commercial, procurement, logistics, and financial services. At the top, there is the national consortium serves as a central purchasing and services center and is responsible for international and national negotiations with suppliers, marketing and communication, promotion, and development of the distributor's brand.

Starting from 2015, sustainability has become a pillar in the strategic orientation of the National Consortium of Regional Cooperatives (NCR). Consequently, the regional cooperatives<sup>1</sup> have been asked to introduce changes that among others result in a reduction of GHG, CO<sub>2</sub> emissions, and waste. In the regional cooperative (CCN) changes are continuous all over the investigated period and concern the logistics infrastructure (the use of Euro-6 trucks, the use of alternative fuels, natural liquid gas, NLG, for the most part). At the same time, CCN managers redesign the main logistic processes in order to improve social and governance goals. Finally, some circular economy strategies have been introduced, which consist in the use of reusable packaging (according to the circular economy approach).

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<sup>1</sup> In our case study one we investigate one of the regional cooperatives labeled with the fictional name CCN.



In the period 2015-2020, sustainability and resilience initiatives seem to be aligned or coupled for the most. After 2020, the disruptions coming from the Covid pandemic, and international conflicts, significantly altered the logistics processes, and the sustainability initiatives already in place needed an adaptation.

PM of multiple nature are used to measure the effects consequent to the introduction of sustainability and resilience initiatives, some of them available in real time, thanks to the continuous investments in IT and control towers. However, given the different priorities of cooperative managers and entrepreneur-members that characterize the context under investigation, the decisions to introduce sustainability and resilience initiatives is always the result of a balance between the increasing costs and the expected environmental and social goals.

Logistics costs represent a constraint to logistics resilience and sustainability, as they should not result in extra costs that negatively impact the entrepreneurs-members profitability unless it is strictly necessary. The logistics managers provided an example of a supermarket chain with a unique property, where some resilient initiatives are implemented notwithstanding the remarkable consequent increases in logistics costs.

For what concerns the capabilities that enable resilience and the achievement of sustainability goals, collaboration is involved in several initiatives. Solid relations and partnerships with the suppliers allow proactive resilience initiatives aimed at reducing CO<sub>2</sub> emissions in transports and waste. Collaboration is also determinant to improve the quality of disclosure in sustainability reporting together with the development of reactive resilience initiatives. As previously mentioned, during the Covid pandemics, and due to international conflicts, CCN needs to revise the initiatives already in place to balance the strategic orientation toward sustainability of the Large-Scale Retail Cooperative, with the shortages of products and transportation services, with also the profitability expectations and targets of the entrepreneurs-members.

The cooperative-competitive environment determines a situation where the tradeoffs between sustainability and resilience are exacerbated, because sustainability is a pillar in the mission of NCR, while the members take in great consideration the financial performance of their stores. Logistics is at the core of this decoupling, due to the high volumes of goods handled all over the country.

The present study contributes to multiple literatures. Firstly, it provides evidence about the distinction between proactive and reactive resilience and sustainability initiatives in the presence of turbulences or disruptions (risk reduction; sustainability development; logistics efficiency improvement).

For what concerns how PM support logistics managers in introducing sustainability initiatives, the results show that before 2020, sustainability initiatives are not substantially supported by the use of PM, because an improvement either in profitability and environmental and social goals is easily expected. After the Covid pandemic, PM are perceived as necessary to balance tradeoffs between the economic and sustainability perspective. In particular, PM creates connections between dynamic capabilities (DC), sustainability and supply chain resilience in the logistics activities.

The study contributes to the literature, providing empirical evidence on the mechanism by which cooperative members derive value from logistics resilience. This contribution is especially significant because of a lack of resources and the limited availability of digital analytics among the actors. The study also extends research on dynamic managerial capabilities theory by demonstrating its relevance to supply chain sustainability and resilience. This study provides insights on empirical-based mechanism of control for developing logistics strategies. It contributes to expanding the knowledge of the current literature on performance measures, as well as to a further understanding of the typologies of sustainability and resilience initiatives concerning logistics within a Large-Scale Retail Cooperative. These insights are integrated to address one of the major issue of SMEs: i.e. resources constraint, in developing sustainable logistics strategies.

Practical implications are also provided. In contexts dominated by strong uncertainties and disruptions resilience plays a critical role to preserve the viability and enable a faster socio-economic recovery within a cooperative network of SMEs and their actors: entrepreneurs, managers, customers, etc. Further research can explore these attributes extending the analysis to companies which are mutually involved in achieving sustainability and resilience goals.

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## ANTECEDENTS, CHARACTERISTICS AND OUTCOMES OF AMBIDEXTERITY IN FAMILY BUSINESS: A SYSTEMATIC FRAMEWORK

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### ABSTRACT

#### *Theoretical Background and Research Gaps*

Family businesses are distinguished as entities where governance and legacy are shaped by the transgenerational aspirations of the owning families. In these contexts, the role of ambidexterity is crucial, referring to the ability to simultaneously manage innovation and optimize established competencies. This dual strategy is crucial for the enduring success of the company, as it involves upholding traditional values and the current array of skills, knowledge, and capabilities (exploitation), all the while adapting to the dynamic changes in the market (exploration). (Tushman, and O'Reilly, 1996)

The study has identified a lack of a unified analytical framework to holistically examine the key factors of ambidexterity present in the existing literature. The absence of an integrated model limits the complete understanding of the evolution and impact of ambidexterity on family business performance. Therefore, the aim is to develop an approach that synthesizes antecedents, characteristics, and outcomes of ambidexterity to enrich the existing literature and stimulate new future research in this field.

#### *Method*

To systematically examine the existing knowledge on ambidexterity in family businesses, Scopus and Web of Science were used as databases. Several synonyms have been used for "Family Business" and "Ambidexterity," arriving at a final query ( TITLE-ABS-KEY ("Family Business\*" OR "Family Firm\*" OR "Family Enterprise\*" OR "Family-Owned\*\*") AND TITLE-ABS-KEY ( ( exploitation AND exploration) OR ambidexterity OR (tradition AND innovation) ) ). Subsequently, articles identified in the initial phase were manually selected, resulting in a final series of 56 publications.

#### *Findings*

Based on the analysis of the selected literature, a framework is identified that enables the classification of the main themes regarding ambidexterity in family business into three main areas: antecedents, characteristics, and outcomes.

*Antecedents* – Factors that serve as initial or pre-existing conditions influencing ambidexterity are captured by the first component. Internal factors can be broadly differentiated into strategic leadership, including CEO and TMT (Abdullah Ho, 2023), family's generational diversity (Mazzelli, A et al., 2020), and intellectual capital (Ferreira and Coelho, 2020). External factors can be classified into factors related to external environmental conditions (Yeniaras et al., 2017).

*Characteristics* - The second component of the framework outlines characteristics that influence ambidexterity, highlighting the importance of effective governance, strategic business planning, and the crucial role of family's generational dynamics in knowledge management and transmission, as underscored by Preciuk and Wilczynska (2020). The study emphasizes the significance of family involvement in ownership and management, effective communication with stakeholders, and the necessity of a corporate structure that supports ambidexterity to maintain harmony between family and business values (Stubner, 2012). By embracing the open innovation approach, the company integrates extensive collaboration with external partners to enrich the flow of innovative ideas and resources (Della Corte, 2018). The company's quick adaptation to changes, facilitated by the integration of dynamic capabilities (Teece et al., 1997), family cohesion, and overcoming internal tensions, as indicated by Guffler et al. (2023), enables the development of an ambidextrous organization.

*Outcomes* - Family businesses with high ambidexterity often outperform others in terms of economic performance, reflecting the harmony between family and business values. This synergy proves advantageous in market competition. Nevertheless, this capacity for continuous renewal extends beyond mere economic success, positively influencing resilience and long-term growth of the firm, as well as sustainable practices. (Abdullah Ho, 2023)

#### *Theoretical Contributions and Implications for Practitioners*

The framework proposed in this systematic literature review helps to understand how the various factors fit within the process of development and implementation of ambidexterity in family businesses, providing a clear structure to analyze the role of each element and their reciprocal interaction. The analysis also offers practical insights for business decision-makers in family enterprises. This research contributes theoretically by developing a conceptual model that integrates various aspects of family businesses with organizational ambidexterity.

*Keywords: Family Business, Ambidexterity, Systematic literature review.*

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## MENTORING THE NEXT GENERATION TO PROMOTE INTRAPRENEURSHIP AND SUCCESSION IN FAMILY ENTERPRISES

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### ABSTRACT

### LITERATURE REVIEW

Family businesses account for more than two-thirds of all businesses in Quebec. Yet few of them succeed in passing the torch from one generation to the next (CTEQ, 2021). A recent study by “Les familles en affaires” (2021) showed that of the 63% of family businesses aiming to pass the torch to the next generation, just 27% are making formal preparations. In this context, a solid succession plan needs to be drawn up. Among the levers of succession, intrapreneurship can prove very interesting to implement as part of what Nordqvist and Zellweger (2010) describe as transgenerational entrepreneurship.

Intrapreneurship is often defined as " the process by which an individual or group of individuals, in association with an existing organization, creates a new organization or brings about renewal or innovation within that organization ". Sharma and Chrisman (1999, p. 18). In the context of family businesses, Minola et al (2021) point out that intrapreneurship provides a propitious framework for the development of internal initiatives. However, this process requires the involvement of family members as well as the transfer of knowledge between generations (Sappleton and Lourenço, 2015). It is in this context that a mentoring process becomes essential.

The literature review is very entrepreneurial mentoring focused, defined as the pairing of a novice entrepreneur with an experienced entrepreneur to provide guidance (St-Jean and Tremblay, 2020). Entrepreneurial mentoring helps develop entrepreneurial potential, but what about intrapreneurial mentoring? This question is particularly relevant to family businesses, which are characterized by highly paternalistic decision-making processes (Ensley & Pearson, 2005) and complex socio-emotional ties (Berrone, Cruz, & Gomez-Mejia, 2012).

It is within this framework that we are interested in studying the "intrapreneurial initiative" program launched by the Fondation des family enterprises (FEF) in Quebec. This training-coaching program aimed at a supporting “mentor-protégé” duo from a family business. Both are engaged in a project to develop an opportunity related to an established family business. In this context, we formulated the

following question: *How can mentoring foster the design and implementation of intrapreneurial initiatives to ensure succession in family businesses?* The aim of this research is to identify the different configurations that mentoring can take depending on the form of intrapreneurship and intrapreneurial orientation of each family business (Randolph et al, 2019).

## **METHODOLOGY**

In this research, we adopted an exploratory qualitative approach. Primary data collection was combined with secondary data (internal and external documents) for better triangulation. A total of 4 family business case studies were studied, with interviews with intrapreneurs (new generations) and mentors. The information gathered was transcribed and analyzed through thematic content analysis using Nvivo software.

## **RESULTS**

The results underline the importance of the family business's willingness to intrapreneurship. In this respect, the typology of Randolph, Li and Daspit, (2019) is particularly enlightening in typifying these companies according to whether they have an explicit transgenerational succession intention or not, and according to whether their capacity to absorb new knowledge is limited or extensive. Its application enables us to classify the four family businesses according to this typology with different arrangements for supporting intrapreneurs.

Our research underlines that several factors are key to mentoring's ability to foster the design and implementation of intrapreneurial initiatives within family businesses. A key antecedent to the success of such initiatives seems to be the willingness of the latter to engage. It is crucial that there is an explicit intention to involve the new generation in the family business, whether for medium-term succession purposes or not. In addition, the family business must be sufficiently prepared to receive new knowledge and potentially discuss or even experiment with new activities to test their relevance. The company's past experience in developing new knowledge can give an indication of such willingness. However, even if a family-run business is well-disposed to intrapreneurship, what seems key to fostering this process is its ability to support the new generation in such an initiative.

Consequently, mentoring appears to be a suitable form of support for family businesses, through the establishment of a relationship of trust between a mentor and a protégé. However, building this trust requires a delicate choice of mentor. The mentor must be trusted by both the family and the protégé.



The right mentor profile is that of a balancing act, with a strong position within the family business and/or the family, and an openness to the professional world beyond the family business. This dual position enables the mentor to act as a key intermediary, enabling the protégé to link up professionally with the family business and also to achieve professional fulfillment in circles other than that of the family. In fact, it's not easy to find all these qualities in the same person. This raises the prospect of at least two forms of mentoring - internal and external - if these qualities cannot be found in the same person. In addition, with regard to entrepreneurial projects, research shows the importance of involving an external partner in the intrapreneurial process. It helps structure the new project and the relationships between the players. The various challenges and added values of this external mentoring are also detailed in this research.

*Keywords : family, intrapreneurship, mentoring, succession, next generation*

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# **URBAN AIR MOBILITY : THE ECOSYSTEM, COMPETITIVE ADVANTAGES AND CHALLENGES TOWARDS THE REALITY FOR SUSTAINABLE ENVIRONMENT**

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## **ABSTRACT**

## **INTRODUCTION**

In recent years, significant technological advancements in electric vertical take-off and landing (eVTOL) aircraft have driven innovations in urban aviation. These advancements encompass new aircraft designs, services, and business models, creating unprecedented opportunities for on-demand aviation for passenger mobility and goods delivery in urban areas (McKinsey & Company, 2018; Reiche et al., 2018; Holden & Goel, 2016). Collectively, these innovations are referred to as Advanced Air Mobility (AAM). The vision of AAM is to provide a safe, accessible, automated, and affordable air transportation system for both passengers and cargo. This system aims to serve previously hard-to-reach urban and rural locations, thereby enhancing connectivity and accessibility. Urban Air Mobility (UAM), a subset of AAM, specifically focuses on creating a safe, sustainable, affordable, and accessible air transportation system within or traversing metropolitan areas. UAM aims to facilitate passenger mobility, goods delivery, and medical emergency services, contributing to the overall vision of enhanced urban transportation (NASA, 2020).

## **PURPOSE OF THE STUDY**

The purpose of this paper is to investigate the following aspects of Urban Air Mobility (UAM) and its contribution to a sustainable environment: 1) Ecosystem Formation: Analyzing the roles and interactions of internal and external stakeholders in the UAM ecosystem; 2) Competitive Advantages: Identifying the unique benefits and strategic edges that UAM offers; and 3) Potential Challenges: Examining the interdependencies and complexities within the UAM system-of-systems and its evolution. Through this investigation, the study aims to understand UAM's impact on social, economic, and environmental aspects.

## **RESEARCH METHODOLOGY**

This study employs a multi-method approach, which includes literature review in analyzing research

from academic databases, white papers, conference proceedings, and reports using keywords such as urban air mobility, eVTOL transportation, competitive advantages, UAM market challenges, and sustainable environment.

- 1) *Quantitative and Qualitative Method* – Interviews/Surveys: Gather industry experts' insights on ecosystem formation (internal and external stakeholders), competitive advantages, potential challenges and sustainable environment.
- 2) *Quantitative Method* - Surveys: Conduct surveys with respondents to assess public perception and acceptance of UAM. The target populations are: i) Tourists from Indonesia, Malaysia, China, and India who visited Singapore from 2019 to 2021. ii) Commuters traveling from Singapore to Batam Island (Indonesia) by ferry.

## IMPLICATION AND CONTRIBUTION

1) Managerial Decision and Commercial Investment: The empirical study provides valuable insights for decision-makers and investors in the UAM sector. 2) Technological Innovation and System Integration: The findings extend existing research and industry interest, helping to improve technological innovation and system integration. 3) Future Urban Transportation: The research highlights UAM as a potential future urban transportation system that is safe, affordable, accessible, environmentally friendly, and economically viable. 4) Sustainability: The study contributes to understanding how UAM can support a sustainable environment.

The paper concludes with recommendations for multimodal UAM systems and suggests areas for future research on sustainability.

*Keywords: Urban Air Mobility, Ecosystem, Competitive Advantages, Market Challenges, Sustainable Environment*

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## AN EXPLORATION OF STAKEHOLDER COGNITIVE BIASES HINDERING CIRCULAR ECONOMY IMPLEMENTATION

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### ABSTRACT

The prevailing "take-make-waste" linear business model is significantly contributing to a surge in waste production and resource depletion (Preston, 2012). This pressing concern has amplified global interest in transitioning towards a circular economy (CE), which is conceptualized as a regenerative and restorative economic system (Ghisellini et al., 2016). The CE advocates the shift towards resource reduction, reuse, and recycling to minimize waste and maximize efficiency (Ellen MacArthur Foundation, 2022), offering a novel approach to tackling sustainability challenges (Zhang et al., 2019). Specifically, moving to a circular model requires a profound transformation that transcends the company's boundaries, encompassing the entire ecosystem where stakeholders and business organizations are interlinked to pursue economic, social, and environmental goals (Aarikka-Stenroos et al., 2023).

Despite acknowledging this, the CE scholarship has been mostly focused on inquiring challenges and limitations of CE concerning the ecological sphere and has failed to comprehensively address how social dynamics and stakeholder interests, values, expectations, and perceptions can support or hinder CE, overlooking the role of human behavior (Beaurain et al., 2023; Murray et al., 2017; Korhonen et al., 2018 Souza Piao et al., 2024). In this sense, while studies about technological, economic, and legislative barriers prevail, the exploration of stakeholder cognitive biases as impediments in the transition to CE remains scant (Cristofaro et al., 2023).

Hence, this study aims to provide a broader understanding of the phenomenon by exploring the different perspectives of various internal and external stakeholders on inaction in the circular economy. In other words, circular projects have an impact on the environment and society but to guarantee their success, the precondition is that these projects are supported by various stakeholders. However, stakeholders often overlook and neglect circular economy projects and our research question arises spontaneously: which specific cognitive biases affect the stakeholders' decision to engage in circular economy projects?

To address our research question we rely on a qualitative methodology that includes interviews with: a) managers of companies that have adopted circular business models; b) managers of companies involved in circular economy projects; c) stakeholders (such as customers, NGOs, suppliers, and

others) who actively or passively participate in circular economy projects. The data will be analyzed using the Gioia method (Gioia et al., 2013), aiming to identify recurrent patterns and build theory through 1st and 2nd order and aggregate dimensions.

We structured the questions based on the literature background of cognitive biases in environmental sustainability decisions (Palmucci and Ferraris, 2023), which we applied and adjusted to CE decision-making.

For instance, Tversky and Kahneman's Heuristics and biases approach to human judgment argues that people, in conditions of uncertainty and under pressure, typically use cognitive shortcuts that make probability assessments easy, but prone to error (Griffin, Gonzalez and Varey, 2001). To provide a few examples, some of the most analyzed biases in the literature are the *status quo* bias (Palmucci, 2023) and the *temporal discounting* (Palmucci and Ferraris, 2023). The former explains individuals' preference for maintaining the current state due to perceiving any change as a loss (Weber and Johnson, 2015). The latter refers to the tendency to undervalue future outcomes favoring immediate gratification over long-term benefits (Mazutis and Eckardt, 2017). With specific reference to environmental sustainability decisions, several studies demonstrate that cognitive biases influence these types of choices as well (Hoffman and Bazerman, 2007), reducing the likelihood that people act in favor of the environment (Palmucci and Ferraris, 2023). To make a few examples with the two biases described above (status quo and temporal discounting), the first will result in a tendency to keep adopting the same practices rather than embarking on new paths and investing in innovative environmental sustainability projects (Singh and Ryvola, 2018). The second will refer to a tendency not to consider the long-term returns of active investments to prevent climate change or, even worse, the tendency not to consider the long-term negative consequences of unsustainable behavior because "far away in the future and thus not relevant" (Shu and Bazerman, 2010). The results reveal that the primary bias hindering the successful implementation of CE practices is the temporal discounting bias. Specifically, some companies favor traditional and short-term investments over CE longer-term investments. This preference is influenced by the perception that consumers are not well-informed about CE products and are reluctant to purchase them due to their high prices. Overall, our paper enriches the literature on circular economy and circular business models through a stakeholder perspective (Beaurain et al., 2023; Murray et al., 2017; Korhonen et al., 2018; Souza Piao et al., 2024), providing evidence and discussing the key role of stakeholder cognitive biases in hindering CE projects implementation and success.

*Keywords: Circular Economy; Sustainability; Cognitive bias; Barriers, Stakeholders*

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## DEVELOPING A RESILIENT MODEL FOR WOMEN-LED SMES: INTEGRATING SUSTAINABILITY AND FLEXIBILITY

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### ABSTRACT

**Background:** Small and Medium Enterprises (SMEs) play a crucial role in the UK economy, representing 99.9% of all businesses and contributing to a combined turnover of £2.41 trillion in 2023. Despite their economic significance, SMEs face numerous challenges due to recent global disruptions, such as Brexit, COVID-19, and geopolitical tensions. Resilience is critical for their sustained growth and stability. Organisational resilience involves adapting positively or emerging stronger from setbacks (Hoegl & Hartmann, 2021). It interests management scholars and policymakers, especially after crises (Van Der Vegt et al., 2015; Williams et al., 2017; Menzies & Raskovic, 2020). There is a need to understand how companies react to major disruptions and the adjustments made to business models following crises (Galkina et al., 2023). Additionally, the role of firm-specific capabilities in overcoming difficult times is emphasised (Krammer, 2022; Behl et al., 2022). This study aims to enhance the resilience of UK SMEs by integrating critical sustainability factors and volume flexibility, with a particular focus on women's leadership role.

**Objectives:** The main objective is to develop a long-term resilient model for women-led SMEs by identifying key environmental and economic sustainability factors. Secondary objectives include identifying sustainability knowledge gaps, measuring the effectiveness of volume flexibility, recognizing key sustainability practices, establishing links between social and economic sustainability factors, understanding the impact of ethnicity, and developing a sustainability matrix.

**Literature Review:** This study is grounded in the intersection of sustainability theory, resilience theory, and gender studies. It seeks to understand and enhance the resilience of women-led SMEs, highlighting the unique contributions of women in business. Sustainability theory, rooted in the Brundtland Commission's definition, emphasises meeting current needs without compromising future generations, focusing on environmental and economic sustainability (Warth & Koparanova, 2012). Resilience theory examines the capacity of systems to absorb disturbances and reorganise while maintaining core functions, essential for SMEs facing economic and environmental disruptions (Hoegl & Hartmann, 2021). Gender studies provide insights into the innovative, community-focused, and environmentally responsible leadership of women in business (Adams & Funk, 2009; Eagly *et al.*, 2003;

Gloor *et al.*, 2022; Hillman *et al.*, 2002; Singh *et al.*, 2008). By integrating these theoretical perspectives, the study aims to identify sustainability knowledge gaps among women leaders, assess the effectiveness of volume flexibility, recognise key sustainability practices, establish links between social and economic sustainability, and understand the impact of demographic factors. This comprehensive framework culminates in developing a sustainability matrix, offering a practical tool for evaluating and enhancing sustainability practices, thereby building long-term business resilience.

**Methodology:** The research is designed to be inclusive, targeting women-led SMEs in the UK goods industry. We consider variables such as ethnicity, education, experience, training, and age, ensuring a comprehensive understanding of these enterprises' challenges and opportunities. The study involves a mixed-methods approach, combining qualitative interviews and quantitative surveys to assess operational efficiency, resource utilisation, and sustainability knowledge. Data analysis will focus on identifying gaps and developing strategic recommendations for improvement to empower these enterprises for long-term success.

**Preliminary findings** reveal the untapped potential of women-led SMEs in the UK. These enterprises demonstrate a unique approach to sustainability, often incorporating more innovative and community-focused strategies. However, there is a significant gap in advanced and strategic sustainability knowledge, particularly in operational and environmental practices. Volume flexibility has shown the potential to enhance economic sustainability by allowing SMEs to adapt to market fluctuations. These findings should inspire policymakers and business leaders to invest in developing these enterprises, fostering a more sustainable and resilient business landscape in the UK.

**Implications:** This research is not just about women-led SMEs; it is about contributing to the UK's broader economic and social goals. The model developed can help women-led SMEs achieve long-term financial success and environmental responsibility by addressing the identified knowledge gaps and promoting sustainable practices. Additionally, the project aligns with and supports the UK's commitment to the UN Sustainable Development Goals, underscoring the significance of this work in the global sustainability agenda.

*Keywords: SMEs, Sustainability, Resilience, Women Leadership, Volume Flexibility, Economic Sustainability, Environmental Sustainability, UK Economy*

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## THE EFFECT OF AUDIT MARKET DEREGULATION ON AUDIT COMPETITION AND QYALITY

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### **ABSTRACT**

In this paper, we examine the relationship between audit quality and audit firm competition. In the year of 2011, law 3919, puts an end to audit fee regulation in Greece and ushers in an era of free agreement on audit fee levels between the parties involved. This regulatory adjustment provides a unique setting, in which to study the effect of the increased level of competition between audit firms on audit quality. We use earnings quality as an audit quality proxy set various independent variables as suggested by existing literature and conduct a difference in difference (DID) analysis and robustness tests. The sample consists of 1.200 firm-year observations from 120 listed companies on the Athens Stock Exchange. To estimate abnormal accruals we use the same model as Han and Wang (1998). Our results indicate a negative statistically significant relationship between audit quality and deregulation of fee bottom reserves, which suggests that augmented competition of audit firms had a negative effect on audit quality.

*Keywords: Audit quality, deregulation, audit fees, earnings quality, audit firm competition.*

# NAVIGATING GLOBAL UNCERTAINTIES THROUGH LEGAL RECOGNITION OF DIGITAL-TECHNOLOGICAL INFRASTRUCTURE WITHIN CORPORATIONS.

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## ABSTRACT

In this globalized and interconnected world, corporations are continuously affected by extraordinary events such as pandemics and conflicts, as well as by business and political occurrences that, while not directly connected with their core operations, have a magnitude that penetrates the global economic and financial framework. These events include financial crises, global political changes, and significant corporate failures with wide-reaching implications, exemplified by the subprime mortgage crisis of 2007, the UK's Brexit referendum in 2016, and the Evergrande bankruptcy of 2021.

To enhance businesses' capability to manage uncertainties and navigate the contemporary global business environment, certain European legal frameworks have introduced specific provisions. These provisions focus on the duties of corporate governance bodies to adopt, evaluate, and monitor the adequacy of corporate structure and business organization, aiming to proactively mitigate potential crises.

For instance, the Italian Civil Code, Article 2086, highlights the entrepreneurial duty to create an organizational, administrative, and accounting structure appropriate to the enterprise's scale and nature, aimed at early crisis detection and continuity preservation (Cerrato, Peira, 2019).

However, despite fostering a shift from a retrospective to a forward-looking and proactive business approach, these legal provisions do not directly address the impact of the ongoing digital and technological revolution on business processes and corporate governance - a revolution that is both a source of uncertainty and a key to managing it (Enriques, 2019).

It is acknowledged that digital and technological developments are primary drivers of change and disruption (see, Scott D. Anthony, et al., 2021; KPMG 2022, CEO Outlook), as demonstrated nowadays by the advent of increasingly advanced artificial intelligence systems. Corporations are, in fact, pursuing digital transformation, also integrating various advanced technologies into their business model, thereby gaining greater flexibility, efficiency, process optimization, and enhanced market competitiveness (Dedehayir et al., 2017; Alicia M. et al., 2023, Marinko et al., 2023). The digitization/technologization of business is further exemplified by studies showing that the majority

of corporations are now engaged in some form of digital initiative or technology platform utilization (see, Eurostat, 2023; U.S. Chamber of Commerce).

In this context, specific regulations address digital and technology phenomena by establishing governance standards that impact corporate governance and business structures. Notable examples include the EU AI Act, which harmonizes rules on artificial intelligence, the Market in Crypto-Assets Regulation (MICA – Reg. EU 2023/1114) setting uniform EU market rules for crypto-assets, and the EU Regulation on distributed ledger technology market infrastructures (Reg. EU 2022/858).

However, this multitude of different regulations creates a fragmented legal and business environment that risk hindering the efficient and effective adaptation of corporate governance and business processes to the digital/technological matters.

Building on the analysis of Italy's Article 2086 of the Civil Code and corresponding laws in other European Member State (such as Germany, France, and Spain), this study proposes an overarching legal intervention aimed at generally recognizing and embedding the digital-technological infrastructure within the core framework of corporations.

The proposed legal intervention mandates entrepreneurs and/or managing directors to establish a digital/technological structure in alignment with the corporation's scale and nature, as well as its organizational, administrative, and accounting structures and the type and degree of advancement of the adopted digital/technological assets.

This legal intervention delineates the roles and duties of governance bodies and promotes the development of common criteria and practice concerning the digital/technologic structure (as has already occurred with the other organizational, administrative, and accounting corporate structures - see Fondazione Nazionale di Ricerca dei Commercialisti, 2023).

Furthermore, it clarifies the responsibilities of administrators and outlines the related legal countermeasures available to shareholders and/or third parties in the event of breach of duty. For instance, under the Italian legal system (Tribunale Catanzaro, 2024; Tribunale Cagliari, 2022) the breach of the obligations outlined in Art. 2086 of the Civil Code by corporate directors may constitute a significant irregularity with several potential consequences. In particular, under specific conditions, this irregularity can (i) allow shareholders to request a judge for the replacement of directors, as provided by Art. 2409 of the Civil Code; (ii) inducing auditors to convene the directors before the shareholders, pursuant to Article 2406 of the Civil Code; (iii) serve as a justified cause for the revocation of directors under Article 2383 of the Civil Code; (iv) entitle shareholders to initiate legal action against the directors to seek reparation for damages resulting from the breach.

Finally, the proposed comprehensive intervention enhances the corporation's ability to adapt to rapidly advancing technologies, acting as safeguards in scenarios where specific regulations may be lacking. In this regard, the requirement to establish an adequate digital-technological infrastructure before implementing any specific technology can endow corporations with a “forward looking” effect that may enable them to anticipate associated risk and respond appropriately.

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## ARTIFICIAL INTELLIGENCE TO FOSTER (MULTI)-STAKEHOLDER MARKETING: A SYSTEMATIC LITERATURE REVIEW

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### ABSTRACT

In recent years, Artificial Intelligence (AI) has gained a prominent voice in supporting human activities within business organizations, including the improvement of business processes, the development of more sustainable products and services, and the creation of new sources of value for stakeholders (Pinheiro et al., 2022; Malodia et al., 2023; Kim et al., 2024). The potential of AI in advancing transformative impacts on interactions with and among stakeholders is recognized as critical to business organizations (Güngör, 2020; Hollebeek, Sprott and Brady, 2021; Khemasuwan and Colt, 2021) since their purpose is, growingly, to create and co-create value with multiple groups of stakeholders simultaneously (Andriof et al., 2002; Freeman et al., 2010; Greenwood and Van Buren III, 2010; Freeman, 2017).

The way firms create value for and with multiple stakeholders defines a company's multi-stakeholder or stakeholder approach. This entails that businesses engage their stakeholders through constant dialogue to build long-term and trustworthy relationships and partnerships with them (Freeman and McVea, 2001; Greenwood, 2007; Manetti and Toccafondi, 2012; Kujala et al., 2022). To do that, some business functions, more than others, play a significant role, such as marketing (Hult, 2011; Aksoy et al., 2022). Marketing has undergone profound changes in the last two decades that seem to follow society's expectations towards more responsible and ethical ways of doing business. Not by chance, marketing scholarship is positing evolutions of definitions and conceptualizations that embed a (multi)-stakeholder approach to value creation. For instance, they suggest that marketing should be seen as a responsible activity that meets customers' evolving needs and the expectations of all stakeholders by engaging with them and establishing human-based long-term relationships between the company and its stakeholders (Bhattacharya and Korschun, 2008; Hillebrand, Driessen and Koll, 2015; Aksoy et al., 2022; Keller and Kotler, 2022).

However, despite the growing efforts of turning marketing into a more human-oriented and perceived business activity, some intrinsic issues that the discipline has been suffering for a long time remain. Such as stakeholders' misperception toward the credibility of the discipline because marketing is commonly considered hustle, misleading and oriented to a dichotomous and residual

value creation solely for customers, underestimating the impact of stakeholders in society (Kachersky and Lerman, 2013; Cluley, 2016).

Therefore, given that 'the impact of AI systems should be considered not only from an individual perspective but also from the perspective of society as a whole' (European Commission, 2020) and scholars call for investigations on the interplay between AI and (multi)-stakeholder approach to serve business' purposes more effectively (Kumar et al., 2019; Güngör, 2020; Katsikeas, Viglia and Hollebeek, 2023, 2023) a question arises: How do AI applications support a (multi)-stakeholder approach in marketing, enabling stakeholder interactions, engagement and collaboration between firms and stakeholders? Before providing an empirical-based answer to this question, we decided to first map the field through a Systematic Literature Review on the topic, given that a holistic interpretation of AI for supporting (multi)-stakeholder approach is needed and the literature is still highly fragmented. Our SLR provides a structured organization of themes and future lines of research in the application of AI to foster a (multi)-stakeholder approach in marketing, by responding to the following RQs:

RQ1: How does AI support a (multi)-stakeholder approach in marketing?

RQ1.1: How does AI enable the interaction with multiple stakeholders in the marketing processes?

RQ1.2: How does AI enable engagement with multiple stakeholders in the marketing processes?

RQ1.3: How does AI enable collaboration with multiple stakeholders in the marketing processes?

RQ2: What are the future lines of research?

The SLR was performed from the Scopus database (Palazzo and Vollero, 2022) and employed the following search query limited to articles in English in the Business, Management and Accounting and Social Sciences fields: ( TITLE-ABS-KEY ( "\*"marketing\*" OR "communication" OR "advertising" OR "sales" OR "customer" OR "product" OR "pric\*" OR "virtual influenc\*" OR "promot\*" OR "distribut\*" ) AND TITLE-ABS-KEY ( "artificial intelligence" OR "AI" ) AND TITLE-ABS-KEY ( "\*"stakeholder\*" ) ) AND ( LIMIT-TO ( SUBJAREA, "BUSI" ) OR LIMIT-TO ( SUBJAREA, "SOCI" ) ) AND ( LIMIT-TO ( DOCTYPE, "ar" ) ) AND ( LIMIT-TO ( LANGUAGE, "English" ) ). To structure our Systematic Literature Review steps, we followed the procedure proposed by Massaro, Dumay and Guthrie, (2016) and Secundo, Del Vecchio and Mele (2021). The initial search led to 320 records and as a further qualitative selection criterion, all papers with an AJG 2021 ABS ranking below 2 were excluded via Excel. The database was narrowed down to 88 results. At this stage, two authors analyzed titles and abstracts to assess each paper's pertinence to the topic under investigation, resulting in the exclusion of 13 papers. Finally, to strengthen the validity of the final sample, a third author read the full texts of all papers and confirmed a final database of 72 papers. For our descriptive analysis, we used the software Bibliometrix to observe the papers' basic information (Denyer and Tranfield, 2009; Calandra

et al., 2023): time evolution, publication breakdown by source, country distribution, and type of methodology. Furthermore, we observed the most cited articles, authors, and most relevant journals.

Early results from our content analysis reveal the emergence of three main clusters that identify how AI supports (multi)-stakeholder marketing: 1. SHARED DECISION-MAKING and DECISION SUPPORT SYSTEM: AI can enable variegated stakeholder capabilities (from commercial to interpersonal) to improve marketing impacts on diverse stakeholders and promote participatory decision-making for product design (Pereira et al., 2022; Pinheiro et al., 2022) and more effective market analysis and forecasting (Albrecht, Rausch and Derra, 2021; Li et al., 2021; Ramos et al., 2021). 2. HUMANIZED MARKETING: AI can favor constant interactions and dialogue among managers, business partners and stakeholders in society to resolve conflicts (Hermann, Williams and Puntoni, 2023; Stahl and Eke, 2024). It also has the potential to empower and engage stakeholders about more ethical use of technology (Hermann, 2022; Bulchand-Gidumal et al., 2023) and to direct marketing efforts to social good (Madianou, 2021; Hermann, 2022). 3. SUSTAINABLE DEVELOPMENT: AI can support stakeholder and manager collaboration in directing marketing efforts toward social good, from how a product is conceived to how advertising campaigns are designed to spread values and norms in society (Coffin, 2022; Rodgers and Nguyen, 2022; Malthouse and Copulsky, 2023).

The deeper exploration of practical evidence and theoretical frameworks within these three identified clusters, which we will perform in the final paper, will open the avenue for future research about AI and (multi)-stakeholder marketing.

*Keywords: Artificial Intelligence; (Multi)-stakeholder marketing; Stakeholder approach; Sustainability; Systematic Literature Review*

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## ADDRESSING THE ATTITUDE-BEHAVIOR GAP IN FASHION INDUSTRY: EARLY ADOPTION OF NEUROMARKETING TECHNIQUES ON GEN Z AND MILLENNIALS

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### ABSTRACT

In the over-discussed fashion industry, sustainable fashion seems paradoxical (Atik and Ertekin, 2022). On the one hand, the current fashion system is mainly driven by speed, change, planned obsolescence, disposable trends, and social dogmas (Buchel et. al 2022), ranking second among the most polluting industries in the world (United Nations Climate Change, 2023), and on the other hand, the challenge of sustainability implies longevity, reusability, and protection of natural resources for future generations (Borowy, 2013; Ozdamar et.al, 2015; Keeble, 1988; Pencarelli et. al, 2020).

Nevertheless, the global fashion industry's harmful social and environmental impacts, particularly the fast fashion sector, are crying out for a more sustainable fashion system (Jung et al., 2016; Lundblad and Davis, 2016).

In this regard, the ones calling for this change are mostly represented by younger generations, who are typically considered the most concerned about issues of responsibility and sustainability (Ivanova et al., 2019; Kozinets and Jenkins, 2022), however, affected by an uncontrollable desire for consumerism (Horton et al., 2022; Joy et al., 2015).

This reinforces an attitude-behavior gap, which is much studied in the literature but not yet resolved (Bick et al., 2018; Bianchi and Gonzalez, 2021; Blazquez et al., 2020; Jacobs et al., 2018; McNeill and Moore, 2015; Riesgo, 2019; Wiederhold and Martinez, 2018). This phenomenon, coined by field researchers as the Fashion Paradox (Black, 2008; Jacobs et al., 2018; McNeill and Moore, 2015) is particularly evident among Generation Z and Millennials, who consistently reveal dichotomous and paradoxical behaviors (Bick et al., 2018; Horton et al., 2022).

Despite many studies on the topic, investigating the gap between attitude and behavior is crucial to studying the fashion paradox. The existing literature has studied the phenomenon using traditional methodologies with intrinsic limitations, such as surveys and interviews. Moreover, such methodologies can produce biased or paradoxical responses in the literature known as *social desirability bias* which can become an issue when research involves collecting data on personal or socially sensitive issues. For example, respondents may believe that society expects them to be responsible for the environment, even though the respondent may not care much about the

environment (Grimm, 2010) and then their consumption patterns remain unaffected (Fisher et al., 2018). This discrepancy underscores the need to investigate the issue using innovative methodologies that can finely capture the complexities of consumer behavior through deeper exploration beyond self-reported data to understand the real dynamics among attitudes and behaviors. Therefore, to provide key theoretical contributions and useful insight to such a phenomenon, we aim to explore the barriers that prevent Gen Z and Millennials from aligning their behaviors with the environmental and social values they claim to possess through a methodology that entails experimental study based on neuromarketing techniques. Such a technique proves validity in shedding light on subconscious influences and underlying causes of these groups' persistent consumption of fast fashion, as well as uncovering the cognitive and inner drivers underlying their attitude-behavior gap.

We expect that our results will contribute to the literature of consumer attitude-behavior gap by identifying a spontaneous and truthful comprehensive set of sustainable purchasing barriers among younger generations - from economic to emotional and ethical - that, if properly addressed, can guide managers to shape coherent and viable marketing strategies.

*Keywords: fashion industry; responsibility; marketing; customer behavior; neuromarketing; attitude-behavior gap;*

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## NUDGING FOR WISE REASONING

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### ABSTRACT

Have we overvalued the pursuit of intelligence at the expense of cultivating wisdom? This study investigated what developmental psychologists are calling a systemic problem: a lack of wisdom in leadership. Delving into Aristotle's practical wisdom, this study analyzed the urgent need for wisdom in contemporary workplaces. Through strategic nudges towards wise reasoning, this research illuminates a path towards decision-making aligned with the common good, promising a brighter future amidst uncertainty.

Wisdom researchers argue there is an urgent need to foster wisdom. The concern from academics, specifically developmental psychologists, is that society has overfocused on developing IQ and domain-specific knowledge, which can be competitive and self-serving at the expense of wisdom (Sternberg & Glück, 2022; Sternberg & Karami, 2021). Intelligence is important to the world, but provides no guarantee of an improved world (Sternberg, 2019). Personal intelligence can be a force for good (e.g., Nelson Mandela, Malala Yousafzai, Martin Luther King) or evil (e.g., Adolf Hitler, Saddam Hussein) depending on one's motivations. Furthermore, high intelligence can be a risk factor for foolishness (Sternberg, 2019). When faced with complex business problems, egocentrism, omniscience, omnipotence, and ethical disengagement can cloud a leaders' ability to act wisely (Grossmann, Weststrate, Ardelt, et al., 2020; Sternberg, 2019, 2021).

Aristotle was the first to introduce *phronesis*, or practical wisdom, allowing people to discern the Golden Mean and the right ways to act in each situation within the context of the situation. *Phronesis* enables wise reasoning (Grossman & Dorfman, 2019; Shoup et al., 2022). Aristotle's version of practical wisdom is significant in that it stresses how decisions are made within the context of situations, portraying action as a dynamic, complex process (Woerner-Powell & Edmondson, 2019). The action considers the ultimate goal within the context of the community one belongs to. Schwartz and Sharpe (2019) describe wisdom as one's "true north" compass that serves as a guide to keep one on the right path with purpose. Aristotle's work has contributed to the application of wisdom in everyday life.

Cultivating wisdom in individuals offers specific advantages to the workplace (Elangovan & Suddaby, 2020). Wisdom helps individuals see problems not in isolation but as multiple contextual layers, increasing awareness of short- and long-term causes and consequences that shift over time. Wisdom includes perspective-taking: understanding problems from different lenses and integrating viewpoints to maximize a common good outcome (Sternberg & Karami, 2021). Additionally, embedded with

wisdom is an understanding of the limits of one's knowledge. As Kessler and Bailey (2007) state, "knowledge gives us the means, but wisdom provides the context and direction" (p. xxii).

This research shares insights from an experimental study on how nudging for wise reasoning strategies may influence decision-making on ill-structured problems for the common good. Study participants ( $n = 419$ ) reviewed a fictitious ill-structured business problem and made a pre-study yes/no vote. Participants were randomly assigned to either the control group or one of two experimental arms: nudge perspective (NP) group or nudge uncertainty (NU) group. The experimental groups were provided a short wise-reasoning nudge and asked to vote again. The NP group received information that provided a new perspective to think about the problem, and the NU group received consideration for future uncertainty.

This study demonstrated that once participants realized the potential long-term implications of the business problem, a significant number of participants changed their decisions, with a significant decrease in their confidence in their decision-making process.

The results of this study found that providing wise reasoning nudges appear to have caused reflection in participants' reasoning strategies. Both nudge groups reported lower confidence in the quality of their decision and how wise of a decision they felt they made after the second decision. Despite the lower scores for confidence and wise decisions, they were more likely to report using wise reasoning strategies, such as considering future uncertainty and ethics, and less likely to consider their own personal interest and financial benefits of being first to market.

The control group participants, working with the least amount of information, reported the highest confidence in the quality of their decision-making process and in how wise of a decision they felt they made. However, the control group was also significantly more likely to report posthumously they wish they had considered ethics in their decision.

The purpose of this experimental study was to test nudges for wise reasoning strategies against an ill-structured business problem. The fictitious problem did not have a right or wrong answer, and it included complicated risks and benefits. The authors imagined cases such as DNA testing, STEM cell research, and the opioid crisis where the benefits to society need to be weighed against the risks when the future use is uncertain, and the future is almost always uncertain. Company financial gain and rapid consumer adoption may be the first step to determining a go-to-market business strategy, but just because a company can fill a market desire, should it? We argue that long-term perspective-taking and consideration of uncertainty should be a part of decision-making. This study demonstrated that once participants realized the potential long-term implications of the business problem, a significant number of participants changed their decisions, with a concomitant decrease in their confidence in their decision-making process.

The world needs more wisdom, and we trust it is available to everyone. Business leaders especially need to adopt wise-reasoning practices when making decisions that impact the common good. In a post-truth world overwhelmed with misinformation and disinformation and technology moving faster than regulating entities can keep up, business leaders have the power to do the right thing. Yet, doing the right thing is not always clear. As these findings pointed out, using wise reasoning strategies, including intellectual humility, perspective-taking, and short- and long-term planning under uncertainty may help leaders make a more balanced decision that considers the common good.

This study contributes to the field of business psychology by empirically demonstrating the impact of strategic nudges on enhancing wise reasoning in decision-making. By focusing on Aristotle's concept of practical wisdom (phronesis), the research underscores the importance of integrating wisdom with intelligence to address complex business problems. The findings reveal that nudging participants to consider different perspectives and future uncertainties can lead to more reflective and ethically grounded decisions, even if it decreases their confidence in those decisions. This study bridges the gap between theoretical wisdom and practical application, showing that wisdom not only enhances individual decision-making but also promotes a broader consideration of the common good in organizational contexts. The use of wise reasoning nudges provides a potential practical tool for leaders to cultivate wisdom, thereby improving decision-making processes. By integrating perspective-taking and ethical considerations into business decisions, this research offers valuable insights for fostering a culture of wise reasoning in contemporary workplaces, ultimately contributing to more thoughtful and balanced leadership practices.

*Keywords: Nudges, Wise Reasoning, Wisdom, Decision-Making, Ethics*

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# ELEVATING AUDIT QUALITY: A SYSTEMATIC FRAMEWORK FOR RISK ASSESSMENT

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## ABSTRACT

Financial audits are conducted in accordance with a risk-based auditing approach wherein auditors assess the risk of material misstatement (RMM) and then develop and execute audit procedures to minimize the audit risk (AR) to an acceptable level (Graham et al., 2018; ISA 200, IAASB 2022; Le and Nguyen, 2020; Seidel, 2017). In this manner, auditors implement the principles of the audit risk model (ARM) to perform effective audits (Chen *et al.*, 2019; Lu *et al.*, 2017). However, limitations and difficulties encountered in applying the ARM (Favere-Marchesi, 2013; Niemi *et al.*, 2018) have led auditors to shift to the use of the ARM at a conceptual level (Chen *et al.*, 2019). Furthermore, the qualitative approach (ISA 200, IAASB 2022) adopted by financial auditors in assessing risks has resulted in varying risk evaluations and inconsistent application of ARM, impacting the quality of audits (Miller *et al.*, 2012; Nguyen and Kend, 2021).

While a stream of research have delved into the correlation between assessed AR and variables affecting audit quality (e.g., Choi *et al.*, 2023; Feng *et al.*, 2023; Nguyen and Kend, 2021; Trucco *et al.*, 2022; Xiao *et al.*, 2020), scant attention has been paid to examining and demonstrating quantitative approaches for assessing AR components within the framework of ARM implementation (Mock and Fukukawa, 2015).

Therefore, this study aimed to investigate the risk factors influencing the application of the ARM and proposed a complementary risk-based instrument (KRIs) to form substance risk judgments and mitigate heightened RMM.

A three-stage scale development procedure was implemented. This included two independent samples involving 767 participants: a pretest through an Exploratory Factor Analysis and a subsequent study through Confirmatory Factor Analysis for construct validation. Additionally, the authors tested the ability of the KRIs to predict the audit efforts needed to mitigate heightened RMM.

The results validated the suggested KRIs, which comprises two risk components (i.e., inherent risk and control risk) and seventeen risk items in total: ten risk items, such as a history of material misstatements and a large extent of manual accounting records, pertain to the inherent risk. The remaining seven risk items, for instance, ineffective control activities and a lack of a code of ethics, relate to the control risk. Additionally, The findings indicated a high prediction power regarding audit efforts needed to reduce the RMM, corresponding with sustainability accounting.

This original study contributes to theory by implementing a holistic approach to develop a well-grounded and innovative instrument that elucidates the mechanism of risk assessments. It models the intuitive approach of evaluating risks (West and Buckby, 2023) into the theoretical framework and provides a quantitative expression of the assessed risks, thereby enriching the theory of risk management (Bogodistov and Wohlgemuth, 2017). The findings of this study could aid practitioners in forming risk judgments when assessing risks (Nagi and Kersten, 2022; West and Buckby, 2023). Furthermore, through the utilization of the KRIs, auditors can effectively communicate material misstatements to senior management, thus contributing to sustainability over time (Gholami *et al.*, 2023; Pizzi *et al.*, 2023). The KRIs is adaptable across various auditing fields and may assist audit standard-setters in enhancing the uniformity and quality of risk assessments.

*Keywords:* Risk of material misstatement, Audit risk model, Financial audits, Scale development, Key risk indicators (KRIs), Sustainability, Audit efforts.

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## IMPRESSION MANAGEMENT IN AN ENVIRONMENTAL CATASTROPHE: CORPORATE REPORT ANALYSIS

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### ABSTRACT

In the current globalized and dynamic business environment, organizations face increasing demands for reliable information. However, there is a critical inquiry into how these organizations respond when confronted with adverse circumstances that may impact their corporate image and overall value. Thus, we try to analyze whether, given the circumstances arising from the Mariana and Brumadinho dam accidents, the Brazilian company Vale made use of its corporate reports to clean up its corporate image, or to manipulate the external perception of the events in question. To achieve this objective, a comprehensive analysis of corporate reports issued by Vale spanning the years 2010 to 2021 was conducted. This analysis focused on identifying impression management strategies employed by the company. The goal was to scrutinize Vale's conduct both before and after the aforementioned accidents, as well as during their occurrence. Evidence was found of the adoption of strategies, mostly of defensive nature, such as internal attribution and denial during the period of Mariana's accident; and apologies, restitution, denial, and improvements in the period of the Brumadinho's accident.

*Keywords: impression management, reporting, disclosures.*

## THE EFFECTIVE LEADER AS “SELF-TALK” OF THE ORGANIZATION

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### ABSTRACT

### INTRODUCTION

Leveraging General Systems Theory (GST) (Von Bertalanffy, 1968), this research argues that effective leadership in non-routine contexts can be conceptualized as isomorphic to certain instances of consciousness in individuals, specifically the function of “self-talk”.

Both individuals and organizations are conceptualized as open systems composed of several sub-systems, with leadership and self-talk acting as integrative forces, steering the system towards a given end goal. These forces serve as “centers of narrative gravity” (Dennett, 1993), binding the subsystems together and enabling the system to cohesively: i) assess its own behavior, and ii) change it to reach a desired end state.

This conceptualization stems from a critical review of literature and the interpretation of empirical data collected through a grounded theory approach, focusing on interviews and case studies to formulate a model of the behavior of the effective leader. A measurement scale is currently being developed to empirically support the validity of these claims.

The integrative function of leadership has been dissected through multiple theoretical lenses. Just to name a few:

- Transformational leadership highlights the role of leaders in inspiring alignment of individual efforts with organizational objectives, suggesting that leaders foster coherence through vision and motivation (Bass, 1985).
- In complex adaptive systems, it is argued that leadership is vital for managing system dynamics and maintaining coherence (Uhl-Bien & Marion, 2009).
- Strategic leadership theories underscore the importance of leaders in synthesizing diverse informational inputs to guide organizational direction effectively (Finkelstein et al., 2009).

Collectively, these theories affirm the integrative role of leadership but often overlook the actual behaviors that leaders enact to enable individuals who hold different pieces of information to collectively construct a shared view of the organization’s functioning, their role within the organization, and the relationship of the organization with the external environment.

Based on a review of i) the role of the leader as a “system integrator” in mainstream leadership theories, and ii) the sensemaking literature and its gaps, it is argued that the role of the leader as a “system integrator” overlaps with facilitating collective/distributed sensemaking and the distributed creation/adjustment of routines by the many stakeholders that make up the organization. This dynamic is argued to be crucial to other key organizational processes such as organizational learning and change, and fitness to the environment in general.

This study aims to bridge the gap about how the aforementioned dynamic between leader and other organizational stakeholders plays out, offering a systemic perspective that portrays this integrative role as a ubiquitous function across various categories of systems.

## **GROUNDING THEORY APPROACH**

Adopting a grounded theory methodology, this research involved conducting 15 detailed interviews and analyzing four case studies where leaders effectively guided organizational subsystems.

The interviews focused on followers working in teams within knowledge intensive firms and where aimed at exploring what was perceived as effective leader behavior in non-routine contexts. The cases include an individual learning how to drive, a consulting team where the leader clearly communicates the larger project objectives to the team members, an accounting department during a distressed M&A transaction, and a growing no-profit organization looking for its identity.

The findings from these diverse scenarios suggest a common structural theme: effective behavior adjustment towards a desired end goal is facilitated by the presence of a leading voice, which first calmly and effectively describes what they believe the system is doing, and then forms a consensus regarding what the system should be doing to achieve the desired end goal. This evidence supports the notion that both effective individual cognitive processes and organizational leadership dynamics rely on internal or communicated directives that describe to the system what it is doing, thereby integrating the efforts of several subsystems towards a common outcome.

## **MODEL DEVELOPMENT AND EMPIRICAL VALIDATION**

Based on the theoretical groundwork and qualitative insights, a 13-item scale called Global Workspace Leadership (GWL) is being developed to measure leadership behaviors that align with the GST-based model of integrative leadership. GWL assesses how leaders provide clarity, ensure understanding of goals, and align individual efforts with broader organizational objectives.

Preliminary testing involving team members from knowledge-intensive firms – distinct from those interviewed – has yielded encouraging outcomes. The results demonstrate internal consistency within the developed scale. Ongoing efforts are focused on refining the scale and substantiating these findings. As part of this process, convergent validity will be assessed by examining the correlation between scores from this scale and another established measure of follower performance. Currently, the Individual Work Performance Questionnaire (IW PQ) is under consideration as a potential metric for performance. This step aims to establish a strong link between the behaviors captured by GWL and overall perceived leadership effectiveness.

## CONCLUSION

By conceptualizing leadership as isomorphic to self-talk, this approach offers a unifying perspective for examining the integrative function of leadership as conceptualized through existing theories. It also connects individual cognitive mechanisms with organizational dynamics, enabling leadership research to intersect with other areas of inquiry. The distinction between management and leadership is also revisited, proposing that an effective manager is also, necessarily, an effective leader.

If empirical evidence will lead to the validation of a measurement scale based on the proposed model, further contribution to the leadership literature will be possible, especially with respect to the relationship between leadership and performance.

*Keywords: effective leadership, general systems theory, interdisciplinary research, exploratory mixed method, grounded theory*

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# THE IMPACT OF OPERATION MANAGEMENT CAPABILITY ON ORGANIZATIONAL INNOVATION PERFORMANCE: THE MEDIATION ROLE OF MARKETING PIONEERING ORIENTATION

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## ABSTRACT

The main purpose of this study is to examine the impact of operation management capability on organizational innovation performance via mediation of marketing pioneering orientation. The data analysis was done by SmartPLS 4 software and included 189 managers from Israeli companies that operate in international markets. The main findings show that operation management capability affects both marketing pioneering orientation and organizational innovation performance. Additionally, the findings reveal that marketing pioneering orientation serves as a partial mediator in the relationship between operation management capability and organizational innovation performance.

## INTRODUCTION

Innovation is one of the organizational pillars that help it to achieve a competitive advantage over its competitors. Many companies are constantly looking for innovative ways to improve their organizational capabilities and adapt their marketing strategy in order to increase the organizational innovation performance. This paper focuses on two organizational characteristics from two different disciplines. The first is from logistics field, which includes the operation management (OM) capability. The second is from marketing field, which includes a marketing pioneering orientation (PO). These two characteristics were chosen because of their central role in promoting organizational innovation performance (INP).

In addition, this study tries to answer a main research question which is whether OM capability and marketing PO can enhance organizational INP ?. Following the above, the main contribution of this study is to advance the research literature by identifying OM capability and marketing PO as drivers of organizational INP. Many of research has documented the positive influence of these characteristics to organizational INP. Hence, understanding how to manage and improve these characteristics is important both managerially and theoretically.

## BACKGROUND AND HYPOTHESES

### Organizational Innovation Performance

Organizational Innovation Performance (INP) is described as an organization's outcome that yields from implementation of their operation management and marketing strategy. Most firms competing within a given industry exhibit similar levels of managerial competence within their various organizational departments such as operations, human resources, marketing, and strategy (Liao et al., 2007). As a result, many firms see innovation as a key to achieving a competitive advantage. Zona et al. (2013) propound that firm innovation encompasses three pillars: developing new products, introducing new processes, and implementing organizational systems that bolster competitive advantage.

### Operation Management Capability

Operation Management (OM) refers to the design, operation, and continuous improvement of a firm's production system, or processes for creating products and services (Mabert & Venkataramanan, 1998). In this study we consider OM as an organizational capability that allow companies to improve their operation processes in order to achieve their goals effectively. Krasnikov and Jayachandran (2008, p. 2) stated that "operations capability is focused on performing organizational activities efficiently and flexibly with a minimum wastage of resources. Therefore, this capability is related to efficient manufacturing and logistics". Operational management mainly refers to delivery, production cost, production delivery, and production flexibility capabilities (Santos Bento & Tontini, 2018). Improving these capabilities positively impacts the firm's innovation performance and competitive advantage (Pagell & Krause, 2002; Wong et al., 2011). Thus, we can assume that:

*H<sub>1</sub>: OM positively affects INP.*

*H<sub>2</sub>: OM positively affects PO.*

### Marketing Pioneering Orientation

Marketing Pioneering Orientation (PO) can be described as a marketing strategy according to which organizations operate. It reflects a company's propensity to introduce novel products to the market at the earliest time. Typically, pioneering behavior is perceived as the embodiment of entrepreneurial behavior - when a particular company creates a new market, or is the first to enter a new market, which others have not yet recognized or formalized (Covin et al., 2000).

Thus, we can assume that:

*H<sub>3</sub>: PO positively affects INP.*

## METHODOLOGY

### Data collection and sample

The data collection was done by *Ipanel* – an Israeli commercial company that specialized in online survey collection. The data was collected using a structured questionnaire that contained screening questions about the research as well as questions related to the body of the study.

The sample contained 189 managers from several companies in Israel operating in international markets.

## RESULTS

The results of the hypothesis tests show that in *direct effects* all hypotheses were found to be significant ( $p < .001$ ). So, *H1* to *H3* were supported. With respect to the *specific indirect effect*, the findings show that the path OM→PO →INP was found to be significant ( $p < .001$ ).

## DISCUSSION AND CONCLUSIONS

This paper aims to examine the impact of two organizational characteristics such as OM capability and marketing PO on organizational INP. The findings show that both OM and PO positively and directly affect INP. Comparing the beta coefficients of OM and PO (0.33 and 0.42, respectively) show that the impact of PO on INP is slightly stronger than the impact of OM on INP. So, managers who strive to increase their organizational INP should strengthen their marketing PO. BY doing so they may enhance organizational INP. Additionally, regarding the mediation role of marketing PO in the relationship between OM capability and organizational INP the findings show that marketing PO have a partial mediation role in this relationship. So, managers who aspire to improve their organizational INP need to combine both OM capability and marketing PO in order to achieve a competitive advantage.

*Keywords: Mediation, Operation Management Capability, Marketing Pioneering Orientation, Organizational Innovation performance*

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# RESIDENTS' SUPPORT FOR TOURISM DEVELOPMENT: INFLUENCES OF THE THEORY OF PLANNED BEHAVIOR AND LOCAL ONLINE COMMUNITY ENGAGEMENT

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## ABSTRACT

Residents are an important but relatively limited resource in terms of comprehensive training on participation and tourism development. Residents' perceptions of tourism activities have been evaluated as showing positive changes; however, they remain at an external and phenomenological level of understanding without depth (Nguyen Phuc et al., 2024). In the context of the extensive impact of social media on all aspects of life, increasing evidence suggests that residents use social media to express their views on tourism (Nguyen Phuc et al., 2024; Nunkoo et al., 2023). Social media allows residents to share knowledge and enhance their awareness of tourism development (Lévy, 1997). When residents use social media, they can acquire more knowledge and develop a better understanding of the values brought by tourism development (Nguyen Phuc et al., 2024). Simultaneously, it creates an environment for them to interact, support each other, and build effective community support. Therefore, effectively leveraging media to help residents raise awareness and facilitate easy access to tourism information is of significant importance. Previous researches have demonstrated that the reception and expression of messages on social media platforms influence residents' attitudes and behaviors (Nguyen Phuc et al., 2024). However, specific research focusing on residents' supportive attitudes toward tourism through participation in local community groups on Facebook remains a gap that needs to be addressed in the context of the rapid development of social media. This research extends the TPB model by incorporating the factor of "local online community engagement" and the antecedent of online social support.

This study was conducted in Can Tho City, which is the economic, educational, and touristic hub of the Southwest region of Vietnam. It is also an important transportation hub connecting various tourist routes from different regions. Can Tho City is also a major rice granary in the country, and agricultural tourism has thrived, attracting domestic and international visitors. However, there is uneven educational attainment and access to information among the local population, and their understanding of tourism is not deep, leading to behaviors that negatively impact tourism (Nguyen

Phuc et al., 2024; Phuong, 2017). Enhancing the level of information reception to increase knowledge and support from local residents in local tourism activities is an important factor in the development of community-based agricultural tourism. This research aims to assess the impact of available online local community channels on the attitudes, behavioral intentions, and behaviors of Can Tho residents in supporting tourism development. Subsequently, solutions will be proposed to effectively utilize these online social channels to provide social support, increase knowledge, engagement, and support from the local residents for tourism development.

The survey was conducted between October 2023 and January 2024. The random sampling method was employed. Data were collected through a survey investigation based on a structured questionnaire sent to the residents via Can Tho's online local community platforms. The focus of the research was on the local residents' perceptions following the proposed research model, which included: (1) social support with information support (4 items), emotional support (5 items), and peer support (5 items) derived from previous researches by Oh & Lee (2012) and Zhong et al. (2021); local online community engagement (5 items) modelled from the scales by Harrigan (2017); (3) attitude (5 items); (4) subjective norms (5 items), behavioral intentions (5 items), and residents' behavioral support for tourism development (3 items) adopted and revised from previous researches Shen and Shen (2021). In order to examine the structural relationships, the Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed.

Through 552 survey responses obtained from residents of Can Tho City (Vietnam), the results revealed a contrast with previous researches: emotional support was regarded as a stronger motivator for LOCE in comparison with informational and peer support. Subjective norms, perceived behavioral control, and attitudes all exerted significant impacts on residents' support for tourism development. Moreover, LOCE exerted a powerful influence on both attitudes and behavioral intentions to support tourism among residents, despite a discernible gap between attitudes and intentions. This phenomenon can be explained from the perspective of localization (social identity theory) and the illegitimate empowerment role of local online community fan pages. The research also provides a reference on residents' tourism support behavior development and proposes a new concept of "local online community engagement" based on the theory of social identity and the theory of social media engagement, focusing on clarifying the specific impacts of social media on tourism activities from the perspective of local residents. Based on the research findings, several recommendations are also proposed. Firstly, the management of local online community platforms should be entrusted to specialized departments. To enhance effectiveness, it is proposed to establish an official Facebook page for the locality, managed by the Local Tourism Promotion Center, with the participation by relevant parties to disseminate information, increase awareness, and promote participation and

support for sustainable tourism development at the local level. Secondly, it is important to enhance content development and interactive activities to increase social support and strengthen connections among community members. Thirdly, controlling response time and content is crucial in managing local online community platforms to build the brand image of the destination.

*Keywords: residents' support for tourism, TPB, local online community engagement, social identity theory, social media engagement.*

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## INTEGRATED PERFORMANCE MEASUREMENT AND SCORING SYSTEMS FOR AGRICULTURAL FIRMS' SUSTAINABILITY ASSESSMENT

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### ABSTRACT

The (un)sustainability of the food system is an urgent theme of some authoritative international political programmes (Fassio and Tecco, 2019). To accelerate the transition of any socioeconomic system towards a more sustainable paradigm, companies should reshape corporate purpose, management activities and performance measurement practices (De Micco *et al.*, 2021). This is particularly relevant for the EU context where the Corporate Sustainability Reporting Directive obliges companies with specific characteristics to disclose report their sustainability performance. In this view, the use of an Integrated Performance Measurement System (IPMS) is indispensable for both EU large companies and SMEs to efficiently guide business activities boosting corporate sustainability (Vitale *et al.*, 2019). However, performance measurement and reporting systems can be affected by ambiguities and incompleteness (Giovannoni and Quarchioni, 2019). Such critical issues typically limit the measurement and reporting of corporate non-financial performance because no univocal consensus has been achieved so far on standards and key performance indicators (KPIs) for adequately managing environmental, social and governance (ESG) activities. Moreover, the existing sustainability measurement and reporting tools have been designed in line with the organisational characteristics of bigger companies rather than considering the needs of small ones (Steinhöfel *et al.*, 2019). Notably, SMEs present less structured and formalized management mechanisms that often inhibit the adoption of the available ESG measurement solutions. Moreover, they usually tend to be focused on ordinary business operations facing challenges in defining and implementing sustainability at the firm level. This is due to limited available resources, scarce awareness about the benefits of sustainability practices on corporate growth, and poor skills and expertise (Mengistu and Panizzolo, 2024). Concurrently, several ESG ratings based on heterogeneous scoring methods have been emerging over the last decades. These ratings mainly support the evaluation of listed or bigger companies' ESG aggregate performance to meet investors' needs and are often characterized by a multisectoral overview (Diez-Cañamero *et al.*, 2020). Considering these gaps, Sachs *et al.* (2021) proposed a holistic set of corporate sustainability topics and indicators to measure, report and assess ESG performance feasibly and efficiently. This framework was created by identifying best practices of non-financial reporting, through the screening of corporate sustainability disclosure based on content

analysis techniques. It was shared and validated through a structured engagement process involving large companies.

The present study aims at addressing agricultural SMEs' challenges when measuring and managing sustainability performance. To this end, we redefine and empirically validate the framework of Sachs *et al.* (2021) designing a comprehensive and flexible IPMS tailored to the specific agricultural SMEs' features. Further, we design an ESG scoring mechanism based on some relevant KPIs and metrics of the proposed IPMS. To achieve the two main purposes of the present study, a survey was administered to Italian SMEs operating in the wine sector, which is notoriously characterized by companies that have more advanced management capacities compared to other agricultural companies (ISTAT, CREA, 2022). Semi-structured interviews were conducted to understand which sustainability material topics are most shared among the firms. The same survey allowed us to collect quantitative data regarding some sustainability performance related to the three ESG areas. Such a qualitative and quantitative approach allowed us to reconsider and enrich the framework of Sachs *et al.* (2021) aiming at redefining specific agricultural ESG themes, KPIs and metrics. We conducted a structured analysis of the most widely used non-financial reporting standards, both at an international and European level (i.e., GRI, ESRS, SASB, IFRS and specific environmental standards). This analysis led us to align our set of ESG themes, KPIs and metrics to the common corporate sustainability reporting practices enhancing the legitimacy and the robustness of our IPMS designed coherently with agricultural SMEs' needs. Contextually, we also aligned the ESG themes, KPIs and metrics with the regulatory standards defined by the European Common Agricultural Policies (CAP) 2023-2027 regarding agricultural firms' environmental and social sustainability impacts. We also set our ESG themes, KPIs and metrics consistently with the standards required by the main well-recognised sustainability Italian agri-food industry certifications (such as Equalitas, EquiPlanet, SOStain, Viva, etc.). Furthermore, we have included indicators and metrics useful for calculating a simplified Product Life Cycle Assessment (LCA) for agricultural SMEs, as well as indicators and metrics needed for calculating carbon credit farming. Finally, we have identified specific indicators and metrics for the wine, oil, cereal, and dairy sectors. Moreover, based on our research and empirical evidence gathered, we have selected a subset of indicators and metrics to calculate a scoring system tailored to the characteristics of agricultural SMEs to evaluate their sustainability performance.

Our research contributes to the ongoing debate on measuring and reporting agri-food SMEs' ESG performance by pursuing the following objectives. 1) Proposing an IPMS designed coherently with agricultural SMEs' characteristics for adequately measuring and reporting agricultural ESG performance. 2) Defining a scoring process to assess the sustainability of agricultural SMEs, considering the macro and micro ESG topics proposed by Sachs *et al.* (2021) and the empirical

evidence found in our study. This assessment could be suitable for managerial purposes and investment/financing decision-making processes.

*Keywords: Agricultural systems, SMEs, Sustainability performance, ESG Scoring, IPMS.*

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# THE IMPACT OF ENTREPRENEURIAL UNIVERSITIES ON FOSTERING ENTREPRENEURIAL ACTIVITIES: THE CASE OF THE UNIVERSITY OF TURIN

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## ABSTRACT

The growing complexity of the economic and social system entails an important change in the role and activities of universities, increasingly called upon to spread technology, knowledge and innovation from the academic world into society (Ferraris et al., 2020). This transition phase has led to the affirmation of entrepreneurial University in which entrepreneurship and innovation represent central factors (Etzkowsky, 2004). Recent studies have highlighted how entrepreneurial education programs for students strengthen the rise of the entrepreneurial university. These programs facilitate the development of ideas from the academic sphere, enhancing universities' effectiveness in their third mission activities and fostering virtuous knowledge transfer processes. (Mele et al., 2022).

For this reason, in recent years, universities have implemented numerous targeted programs to foster an entrepreneurial culture among students. These initiatives are designed to create synergies and mutual support dynamics between the academic community and the local entrepreneurial ecosystem (Micozzi et al., 2022). The goal is to prioritize the promotion of entrepreneurial attitude among students and the transfer of knowledge to companies to move from a pure research-based model to a more entrepreneurial-based one (Etzkowitz, 2003).

The University of Turin finds itself under the influence of these structural changes, as well as of economic and conjunctural factors, such as the projects linked to the European NRRP (National Recovery and Resilience Plan) funding, and the implementation of programs by philanthropic actors. In this sense, the University of Turin plays a central role in the processes of fostering entrepreneurship, innovation, and technological and knowledge transfer as explicit in the document "Piano Strategico 2021-26". This is also highlighted by the role of the Department Directorate for Innovation and Internationalization which specifically deals with the promotion of entrepreneurship and the University incubator that supports higher-value services, such as mentoring, coaching, networking and fundraising intermediation (Auricchio et al, 2013).

Although the concept of the entrepreneurial University has been widely studied in academic literature, it is not yet clear what are the best policies and tools to incentivize the positive effects of ideas coming from the academic world (Dalmarco et al., 2018).

For these reasons, in such a delicate evolution phase of the university's role, this research aims to answer the following questions: 1) What role do the universities play in promoting innovation and entrepreneurship? 2) How do specific entrepreneurial and innovation education programs impact university students and how can these programs be improved?

To address these research questions, we will conduct a case study analysis focusing on the University of Turin. Specifically, we will examine programs aimed at fostering entrepreneurship and innovation among students, which involve collaboration with external companies as organizers. Data will be collected through three different methods and then analyzed through triangulation (Eisenhardt, 2002) to reduce the biases that would derive from a single observation (Tarrow, 1995). This research will make use of semi-structured interviews (Roesch, 2005) with the most relevant figures who deal with innovation and entrepreneurial programs as well as with the managers of the 2i3T University of Turin business incubator and with the enterprises involved in such activities. Furthermore, an online survey will be administered to students who have participated in such programs. Finally, the authors will actively engage in these programs, observing and conversing with both organizers and participants, thus allowing an ethnographic analysis.

The results will be studied using qualitative and quantitative methods to provide important insights into the process of the establishment of the entrepreneurial University and how to improve the activities related to the promotion of entrepreneurship and innovative mentality among students. Moreover, this research provides new ideas that can integrate the activities carried out by both universities and enterprises in these sectors.

Subsequently, other researchers in the field will have the possibility of using our results to compare with the experience of other universities in the Italian context or internationally.

*Keywords: Entrepreneurial university, Entrepreneurial education, Innovation, Knowledge Transfer, Business Incubator, Startup, University, Turin.*

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## HR BEYOND HR: THE DEVELOPMENT OF NEW METRICS TO ASSESS HR ACTIVITIES IMPACT

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### ABSTRACT

#### POSITIONING AND RESEARCH GAP

The conception of Human Resources (HR) departments has undergone a transformative evolution. Initially, these departments primarily served an administrative function (Lemmergaard, 2009). This role, while essential, often confined HR to a reactive and operational sphere. However, with the changing dynamics of the business landscape, HR has shifted towards a more strategic and managerial role (Jo *et al.*, 2024). This culminated in the HR business partner concept, wherein HR functions as a strategic ally to business leaders, contributing to the attainment of organizational goals and objectives (McCracken *et al.*, 2017), making HR an integral part of the overall business strategy (Wach *et al.*, 2022). This paradigm shift has underscored the importance of leveraging HR activities to drive broader organizational outcomes (Taamneh *et al.*, 2018). Traditionally, HR initiatives were aimed at enhancing the performance and, more recently, the welfare of employees (Pagán-Castaño *et al.*, 2020). While this remains fundamental, there is now a growing recognition that the strategic utilization of HR data and insights can have further-reaching implications, informing decision-making processes across various organizational facets including operations, finance, information technology, and corporate social responsibility (CSR) (Di Prima *et al.*, 2023; Oehlhorn *et al.*, 2020; Stahl *et al.*, 2020).

Despite the increasing recognition of HR's strategic importance, there exists a notable academic gap concerning the development of comprehensive metrics to assess the impact of HR activities beyond the HR domain. While financial performance metrics have gained prominence, they offer only a partial perspective (Kramar, 2014). Furthermore, the rapid technology advancements have added complexity to the HR function, necessitating the adaptation of measurement tools effectively capturing the evolving dynamics of the organizational environment (Oehlhorn *et al.*, 2020). Consequently, scholars have highlighted the need for empirical research aimed at developing comprehensive frameworks and more nuanced and multifaceted metrics that encompass a wider range of organizational outcomes beyond the financial aspect (Pillai and Sivathanu, 2022). Such metrics would not only provide a more

holistic understanding of HR's contributions but also facilitate alignment with broader organizational objectives.

## **OBJECTIVES**

The primary objective of this study is to propose new metrics encompassing not only the diverse activities undertaken by HR departments but also the broader organizational outcomes resulting from these activities. To achieve this objective, we will address the following research questions:

RQ1: What are the key priorities of the HR department?

RQ2: What are the impacts of HR department's activities beyond traditional HR outcomes?

RQ3: How can these impacts be measured?

### Research Design

A mixed methodology will be employed, including both a qualitative and quantitative approach. First, semi-structured interviews will be conducted with experts who possess relevant expertise in the field of organizational metrics to explore the needs, challenges, and opportunities in performance measurement (Döringer, 2021; Horton *et al.*, 2004). Subsequently, based on the interviews' insights, measurement scales for each identified area will be developed (Hinkin, 1995). A validation process will then be undertaken to ensure the reliability and validity of the scales, employing principal component analysis, internal reliability, and internal consistency techniques (Mat Nawi *et al.*, 2020). Subsequently, a large-scale questionnaire administered to a representative sample of organizations will collect data on the proposed new metrics as well as other relevant variables for each identified areas of interest (Groves *et al.*, 2013). Finally, comprehensive data analysis will be conducted to explore relationships between the new metrics and organizational outcomes of interest (Dash and Paul, 2021; Hair Jr *et al.*, 2017).

## **THEORETICAL CONTRIBUTIONS AND IMPLICATIONS FOR PRACTITIONERS**

From an academic standpoint, this study addresses a notable gap in the literature by proposing new metrics that encompass the entirety of HR activities and their organizational impact, thus enhancing the understanding of the multifaceted role of HR departments. Furthermore, the rigorous methodology employed in this study, including interviews with experts, scale development, validation, and data analysis, adds methodological rigor to the field of HR metrics research, enriching scholarly discourse and laying the groundwork for future research endeavors.



For practitioners, this research offers tangible benefits in enhancing HR measurement practices and facilitating informed decision-making. The proposed new metrics provide a more comprehensive and nuanced understanding of the impact of HR activities on organizational outcomes, allowing for more effective alignment of HR strategies with broader organizational objectives. By leveraging these metrics, organizations can optimize their HR practices to drive sustainable business success, foster employee engagement and well-being, and enhance overall organizational performance. This will empower practitioners to make data-driven decisions that contribute to the achievement of strategic goals and the long-term success of their organizations.

*Keywords: HR management; HR metrics; organizational outcomes; mixed methodology.*

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# MARKETING STRATEGIES AND INTERFACES WITH ACCOUNTING AND CORPORATE FINANCE: A SYSTEMATIC LITERATURE REVIEW

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## ABSTRACT

## INTRODUCTION

There is an extensive literature on the association between marketing strategies and corporate finance and accounting. This literature stresses that the visibility generated by product market expenditures (advertising and communication expenses) can have direct and measurable implications for investors' attention and behaviour, and even the efficient administration of corporate accounting scandals on behalf of involved firms (Sharpe, 2021). As pointed out by Gensler et al. (2023), today stock market participants want firms to balance their marketing strategic orientation with their financial goals and value creation. Specifically, they showed that stock returns are associated with communicated and reported shifts in strategic orientation, with a positive market response on communicating value creation to potential investors. Moreover, alternative marketing strategies such as celebrity endorsements (Shiva et al., 2022), green crowdfunding (Rossolini et al., 2021) and consumer resilience programs under extreme crisis conditions (Bahmani and Yazdanparast, 2024) all have impact on stock valuations, investment intentions, firm values, and fund-raising efforts.

The scope of this paper is to provide a defined, refined, and comprehensive understanding of the association between marketing strategies and corporate finance and accounting by conducting a systematic literature review on the interfaces of corporate marketing strategies and finance. Specifically, we try to answer the following research question: What are the implications of marketing strategies for businesses accounting performance and financing decisions? To answer this question, we undertake a critical analysis of the marketing strategies literature in relation to stock valuation, corporate financing and performance evaluation and subsequently synthesizing the existing findings utilizing a multi-theoretical and multi-disciplinary framework, and present avenues for future research and practical implications for marketing strategists and managers.

This paper aims to cover an important gap in the literature by providing a comprehensive and analytical literature review connecting various marketing strategies and their implications to accounting and corporate finance. This is the first systematic literature review on this topic, responding to calls for more research raised by Morgeson III et al. (2024), Sydney-Hilton and Vila-

Lopez (2019) and Gensler et al. (2023), offering useful implications for a) researchers extending the current qualitative and quantitative frameworks and forms of analysis on this topics, b) corporate managers for evaluating marketing strategies in relation to their accounting and financial impact, and c) marketing practitioners for improving marketing and communication strategies to better align their effectiveness with economic and financial returns.

## **DATA AND RESEARCH DESIGN**

Following Dimitropoulos et al. (2023) and Christofi et al. (2017), we examined the Title, Abstract, and Keyword fields within the digital libraries of Scopus and Web of Science, because these sections typically include key phrases for each article. The keywords were truncated to identify all relevant journal articles (published in English) containing keyword variations. In addition, each group's key phrases were correlated using the Boolean OR operator to generate a research string. Additionally, the group research strings were correlated with the Boolean AND operator to generate the combined research strings. The research formula utilized was ("Marketing strategies") AND ("Corporate finance") AND ("Accounting" OR "Financial Accounting" OR "Corporate accounting"). The primary literature search based on the qualifying criteria generated a total of 158 results (papers) from both databases that will be used in the analysis. Preliminary findings suggest that communication, brand, marketing, sponsorship, and various other strategies are connected to financial performance (profitability), revenue generation ability, stock price returns and volatility, credit risk and market share.

## **CONTRIBUTION OF THE STUDY**

This study contributes to the literature on marketing strategies and finance since we provide the first systematic review of the extant literature aimed at the interfaces of marketing strategies, accounting and corporate finance thus offering an overall understanding of the domain, which allows us to assess, critique, and yield a value-adding synthesis of the literature. Our study aims to fill this gap in the literature because the analysis enhances the knowledge base related to marketing strategies and finance (corporate accounting and financial management) by merging multiple insights from different theoretical streams, allowing a thorough understanding of this issue.

*Keywords: Marketing strategies, Accounting, Financial Reporting, Corporate Finance, Systematic literature review, Capital markets.*

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## THE ROLE OF BLOCKCHAIN TECHNOLOGY AND ITS IMPACT ON THE BUYER-SUPPLIER RELATIONSHIPS IN THE FOOD SUPPLY CHAIN

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### ABSTRACT

Blockchain technology (BCT) is a decentralized consensus system that provides secure, transparent record-keeping through digital cryptocurrency (Shankar et al., 2017). Blockchains allow us to have a distributed peer-to-peer network where non-trusting members can verifiably interact with each other without the need for a trusted authority (Christidis and Devetsikiotis, 2016). In recent years, blockchain (BC) networks have expanded to a broad spectrum of fields. They have garnered significant attention due to their feature of creating secure private and public networks in a decentralized manner. On the other hand, the expansion of the food industry, both on the national and the global stages, has resulted in complex collaborative networks where supply chains food safety and management significantly affect public health and has become an essential subject of concern in both print and digital media around the globe. The traditional Food Supply Chain fails to meet the customer requirements of quality, safety, reliability, transparency, and traceability (Tayal et al., 2020). The use of blockchain-based systems for managing a supply chain offers significant benefits, such as faster and more reliable traceability (Katsikouli et al., 2020). There is a pressing need to study Blockchain technology especially in the food supply chain. Moreover, conceptual and empirical contributions will improve our understanding of this emerging technology and its impact on food supply chains. Buyers in the food industry are requesting nowadays updated data on nourishments through the presence and use of digital media. They are likewise progressively requesting to know whether the nourishments they devour are ecologically and socially manageable or not. As an outcome, food product traceability, safety, and sustainability issues have become urgent worries to food retailers, wholesalers, processors, and farmers. Digitalization permits food supply chains to be exceptionally associated, proficient, and receptive to customer needs and regulation requirements (Kittipanya-ngam and Tan, 2019). Blockchain technology offers significant advantages in the food supply chain by enabling immediate identification and prevention of tampering, benefiting both food producers and retailers. Additionally, it addresses the issue of information asymmetry, potentially reducing market failures caused by consumers inadvertently selecting lower quality or unsafe food due to a lack of transparent information about food quality.

The purpose and the importance of this abstract lay upon the role of Blockchain technology and its impact on buyer-supplier relationships in the food industry. It is very important to understand the effect of such role of Blockchain technology since the agri-food industry could benefit from the introduction of Blockchain, which has all the features to represent a huge sustainable business model (SBM) innovation towards sustainability (Tiscini et al., 2020). The management culture adopted for food supply chains has an impact on the quality of the end product and the vitality of the involved businesses. As for the methodology, different steps will take place: the first step is about conducting a comprehensive review of existing literature on blockchain technology, buyer-supplier relationships and their application in the food supply chain- by analyzing the dynamics of buyer-supplier relationships within the food supply chain, considering factors like trust, communication, information sharing, and power dynamics, while evaluating the influence of blockchain technology on these relationships, including its impact on transparency, trust-building, and collaborative decision-making; the second step, is about selecting case studies from the food industry where blockchain technology has been implemented or explored to enhance buyer-supplier relationships, and by illustrating its impact on various aspects of supply chain dynamics, transparency, and efficiency; the third step is about conducting semi-structured interviews with stakeholders involved in the food supply chain including food producers, distributors, retailers and even consumers to gather primary data on their experiences and perceptions regarding blockchain technology, and along collecting secondary data from reports, industry publications, and academic journals to supplement primary data and provide additional context. It is important to mention that the collected information from the food companies through different interviews with the managers or supervisors will help in interpreting and analyzing the academic literature and mainly notify any future research opportunities (Wang et al., 2018). Regarding the contributions, this study will provide a comprehensive understanding of blockchain technology's role in addressing challenges within the food supply chain, such as traceability and transparency. It highlights the potential benefits of blockchain-based systems and their impact on traditional supply chain management practices. Additionally, the study offers insights into buyer-supplier relationships in the food industry, examining how blockchain influences collaboration, trust-building, and information sharing. By synthesizing academic literature and empirical data, the research identifies future research opportunities to further explore blockchain's potential in improving supply chain operations and sustainability. Furthermore, this study will empower managers to make informed decisions about integrating blockchain-based systems into supply chain operations. Furthermore, by deepening understanding of blockchain's impact on buyer-supplier relationships, managers can foster collaboration and trust, streamline communication, and improve overall supply chain performance. Additionally, the study emphasizes blockchain's potential to drive innovation and

sustainability, enabling managers to develop more environmentally and socially responsible business models while meeting customer demands for quality and transparency.

Finally, the research question that is formulated is settled as “what is the role of Blockchain Technology and its influence on the Buyer-Supplier Relationships in the Food Supply Chain? This research, which integrates information technology, Blockchain, operation management and supply chain, will motivate the academia and industry to adopt and achieve efficient and effective goals in this field of Food Supply Chain.

*Keywords: Blockchain Technology, Buyer-Supplier Relationships, Transparency, Food Supply Chain, Digitalization, Traceability, Safety, and Sustainability Issues.*

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**BUYER-SUPPLIER'S TRUST RELATIONSHIPS AND SOCIAL BONDING  
MECHANISMS IN THE SMALL AND MEDIUM ENTERPRISES:  
INVESTIGATING THE IMPACT AND UTILIZATION OF BLOCKCHAIN  
TECHNOLOGY**

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## **ABSTRACT**

Depending on the companies' actions, customers will either increase or decrease their trust in the quality of the products the companies provide. Monitoring buyer experience provides competitive advantages for suppliers as buyers explore the market before reaching a salesperson. Still, not many B2B suppliers monitor their buyers' expectations throughout their procurement journey, especially in MSMEs and SMEs. In the previous decades, buyer-supplier relationships have been supply chain management's primary focus and aspiration, retaining the notion that trust, duty, and long-term direction are vital forerunners to viable buyer-supplier connections (Trautmann et al., 2009). Creating and developing trust between all levels of companies, specifically between suppliers and consumers, is essential for achieving effective supply chain performance. Different conceptual models seeking to understand the outcomes of buyer-supplier relationships in supply chains, were proposed by many authors among them: Sapukotanage et al. (2016), Johnston et al. (2004), and Ambrose et al. (2010). Gullet (2010) identified trust, distrust, and trustworthiness as interdependent factors that influence the relationship between buyers and suppliers. Paluri and Mishal (2020) identified 40 trust antecedents among them are cooperation, information sharing, communication, shared values, and supply chain planning. This is followed by dependence on customers, which leads to customer trust, where customer integration improves the organization's financial results (Zhang & Huo, 2013); and dependence on suppliers, which leads to supplier trust and supplier integration, which impact the organization's financial results positively (Zhang & Huo, 2013). On the other hand, the consequences of trust are collaboration, commitment, performance, and relational outcomes such as stability, relationship commitment, satisfaction, and transaction cost. Moreover, relationship commitment is guided by team and individual trust and leads to collaborative performance (Paluri & Mishal, 2020). To create the buyer-supplier relationship, social bonding strategies include interpersonal interactions

and friendships. Structural bonds reflect a variety of economic, strategic, and functional characteristics that provide exchange partners with tangible business benefits (Rodríguez & Wilson, 2002). Two social dimensions of buyer-supplier relationships' tactics are management ties and information exchange. Managerial relationships are a trust-based mechanism that can be easily exploited by the weaker side. These connections encourage reciprocal trade, consumer loyalty, and sales, as well as facilitate prompt payment from customers. The power used by the side with greater power can be influenced by the party with less power. The long-term relationship between exchange partners is influenced by the interplay between the power structure and management ties. Supplier information sharing is a crucial element of social bonding for the buyer, as it is necessary for establishing a long-term partnership between buyer and supplier, which requires constant communication to sustain strategic, operational, and technological integration (Hult et al., 2004). It is believed that Blockchain-based payment systems provide faster, more secure, and cost-effective cross-border transactions. For international SMEs, this technology can eliminate the need for intermediaries, reduce transaction fees, and enable faster settlement. However, in contemporary times, the ubiquity and significance of Blockchain technology across various sectors, notably the small and medium-sized businesses (SMEs) in the food and beverage industry, which are especially vulnerable to changes in their external environment (Johnson et al., 2017), are undeniable. Blockchain technology serves as a peer-to-peer distributed data infrastructure facilitating record-keeping and value transfer. The methodology in this research is qualitative based on interviews addressed to the buyers and suppliers within the food industry. This study expands the understanding of trust dynamics in buyer-supplier relationships by integrating blockchain technology as a moderating factor. It also adds to the existing body of literature on supply chain management by exploring the interplay between trust, social bonding, and technological integration. The findings provide practical insights for SMEs in the food and beverage industry, demonstrating how blockchain technology can enhance trust and cooperation between buyers and suppliers. Managers can leverage these insights to improve supply chain performance and foster stronger, more reliable partnerships. This abstract intends to explore the potential applications of blockchain-based technology, its benefits and limitations, especially in increasing or decreasing the level of trust and improving or diminishing the social bonding between parties in the small and medium-sized businesses (SMEs) especially in the food and beverage industry.

*Keywords: buyer-supplier relationships, Blockchain Technology, Trust, Food Industry, Social Bonding Mechanisms, Information Sharing, Confidence.*

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## ETHICAL AND UNETHICAL PRACTICES WITHIN THE FOOD SUPPLY CHAIN: EXPLORING THE ROLE AND APPLICATION OF BLOCKCHAIN TECHNOLOGY

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### ABSTRACT

Many countries globally are experiencing food crises due to a combination of factors that require external support to address any critical problems with food insecurity. In addition, many countries in the MENA region engage in unethical practices in the food supply chain, including Jordan, Palestine, Turkey, Cyprus, and Saudi Arabia. Unethical practices range from bribery to corruption, defects, and food fraud. Different factors play a critical role in food production. For example, animal welfare, customer and employee safety and protection, the use of natural resources, the country's raw materials in terms of quality and safety, the global trade between buyers and suppliers, and the changes in temperature that affect crops. In an example of food fraud, Trudel and Cotte (2009) stated that consumers preferred ethical products over unethical ones and were willing to pay for them even though they were more expensive. Any misconduct or unethical behavior will disrupt the relationship between buyers and suppliers, indicating that some members of the supply chain were responsible for this illegal or unethical act. As stated by Kaynak et al. (2015), the buyers blame salespeople for faulty or defective products; however, the main problem rests with the suppliers, since they are responsible for assembling the raw materials and distributing the products to the market. Therefore, it is essential to control all the processes from the point of origin to the end consumers. Even though a code of ethics is beneficial and useful for companies, it is not a guarantee that they will implement ethically responsible behavior in the marketplace (Nijhof et al., 2003). Companies such as Enron, Worldcom, Arthur Andersen, and Parmalat destroyed their market reputations by engaging in unethical behaviors, leading to dire situations. In addition, several firms, such as Skandia and Systembolaget, were accused of bribery and ethical violations (Dibra, 2016). Companies must emphasize the importance of developing their managers' ethical decision-making skills in order to resolve ethical issues in supply chains. Therefore, greater effort should be dedicated to establishing norms that encourage ethical judgments. Furthermore, in-house ethical training programs could be useful in the future, particularly if rewards and benefits are offered to managers, so that they could act or judge ethically with a reduction in unethical practices (Ha & Nam, 2014). Companies engaging in unethical

practices affect supply chain relationships, compelling firms worldwide to prioritize business ethics as a critical strategic action (Ha & Nam, 2016). When making ethical decisions, values and judgments are regarded as crucial variables based on the circumstances of the specific situation (Ferrel et al., 2011). With the rapid advancement of information technology and the emergence of internet-based e-commerce, enterprises began to focus on improving the supply chain's performance and the strategic partner relationship of the supply chain network (Cui, 2018). The food technology sector is constantly changing, with new advances and breakthroughs every year. Advances in technology and industrialization may give consumers the opportunity to increase their knowledge about food producers and the quality of the product through the labels found on them. Nowadays, no one can deny the presence and importance of Blockchain technology in different fields especially in the food industry. As a distributed digital ledger technology, the blockchain technology works as a "peer to peer" distributed data infrastructure that can be used for recordkeeping and the transfer of value, with potential applications in multiple sectors including for supply chain management and logistics. In the agri-food supply chain, the blockchain technology shows promise for ensuring traceability and transparency of product information as fundamental differentiators (Kim et al. 2019). While the relationship between blockchain technology and supply chains have been widely investigated (Treiblmaier, 2018), the research on the application of blockchain technology in food supply chain is still at the embryonic stage especially when it comes to ethical practices. The main gap in this study is the lack of concrete exploration into the specific applications of blockchain technology in addressing ethical issues within the food supply chain. Additionally, how exactly blockchain can be utilized to mitigate unethical practices such as bribery, corruption, defects, and food fraud, requires further investigation. Therefore, there is a need for further research to bridge this gap by conducting comprehensive studies that explore the practical implementation of blockchain technology to promote ethical practices in the food supply chain industry. Regarding the methodology, an analysis of the existing literature will take place to establish a foundational understanding of ethical issues within food supply chains and the potential of blockchain technology to address them, followed by a gathering of the primary data through semi-structured interviews with different food firms from the MENA region countries, alongside secondary data from reports, publications, and industry sources, to enrich the study with diverse perspectives and empirical evidence. Thus, developing a framework for evaluating the ethical implications of blockchain implementation in food supply chains, ensuring a systematic approach to assessing its impact on ethical standards, designing a strategic plan for integrating blockchain solutions into food supply chains, and outlining practical steps for leveraging blockchain to address identified ethical challenges effectively, is critical in this research.

This abstract intends to explore the potential applications of blockchain-based technology to agri-food supply chains, its benefits and limitations, especially in deploying ethical practices and reducing unethical practices in the food supply chain industry. In other words, the study aims to explore how blockchain technology can enhance traceability and transparency of product information, ultimately improving the ethical standards of food production and distribution. Additionally, it intends to suggest approaches to overcome challenges associated with implementing blockchain technology in this context. As for the contributions, the abstract, mainly the research will contribute in exploring the potential of blockchain technology in agri-food supply chains, emphasizing its role in promoting ethical practices: it provides insights into how blockchain can enhance traceability and transparency, thereby improving ethical standards in food production and distribution; by identifying both benefits and limitations, the abstract offers practical guidance for researchers, policymakers, and industry stakeholders. Furthermore, it suggests approaches to overcome challenges associated with implementing blockchain technology, encouraging further research in this under-investigated area. Overall, this research contributes to advancing the knowledge and understanding of how emerging technologies like blockchain can be leveraged to address ethical issues within the food supply chain industry.

*Keywords: Ethical Practices, Unethical Practices, Blockchain Technology, Food Supply Chain, Technology, Food Fraud Consumer Behavior.*

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## PORTFOLIO OPTIMIZATION BASED ON LOCAL DEPENDENCE FUNCTION IN FINANCIAL ASSET SELECTION

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### ABSTRACT

Efficient portfolio optimization is a fundamental goal for investors to achieve risk-return trade-offs. At the center of this goal is the process of asset selection where the choice of assets influences the performance and risk of the created portfolio. Due to the growing number of available assets, this selection process requires innovative methods as it becomes a computationally challenging task (Haugh and Lo, 2001). The significance of effective asset selection cannot be understated. Quantitative traders, portfolio managers, and investment advisors benefit from various asset selection techniques that improve risk-adjusted returns and portfolio resilience.

In this study, we propose a new approach during asset allocation using the local dependence function introduced by Bairamov and Kotz to overcome the challenges of asset selection (Bairamov and Kotz, 2000). Local dependence function is a measure that can capture the dependencies between variables locally rather than globally which provides more insight on the relationship compared to existing measures. We incorporate the modified local dependence function proposed by Tutuncu et. al to capture the dependencies among assets into the optimization model and enhance the accuracy of the portfolio (Tutuncu et. al, 2021). The main objective of the study is to evaluate the success of our proposed method using computational analysis and comparative studies.

Our study involves collecting and preprocessing historical stock price data obtained from NASDAQ100, construction of local dependence matrix and portfolio optimization using efficient frontier framework. The computational performance analysis of using local dependence function for asset selection demonstrates the effectiveness of our approach to achieve high return and low risk trade-off. A comparison between Pearson's correlation and local dependence is also provided and it offers a more insightful view of our approach compared to traditional measures.

*Keywords: Portfolio Optimization, Asset Selection, Stock Exchange, Correlation, Local Dependence, Efficient Frontiers*

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## UNLOCKING ITALY'S POTENTIAL: MEASURING PUBLIC VALUE IN THE NATIONAL RECOVERY PLAN

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### ABSTRACT

The purpose of this study is to highlight how to measure the public value generated by a National Recovery Plan. For this purpose, the research meticulously examines the funding program and evaluates how it will contribute to the creation of new public value. The interpretative model may be particularly suitable for data collection through the review of European Commission reports and associated literature. Data can be collected through online research methods, enabling the analysis and evaluation of European Commission reports to comprehend how the National Recovery and Resilience Plan (PNRR) will impact Italy and how it will benefit citizens and governments. The review also underscores how Italy will utilize the PNRR to enhance its economic and social conditions, thereby creating public value.

*Keywords: Public value, PNRR, National Recovery Plan, Social impact.*

## FROM BYTES TO BEAUTY: ICT'S INFLUENCE ON CULTURAL HERITAGE VALORIZATION

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### ABSTRACT

This article employs a multiple case study approach to examine virtual museums and their digital culture, thereby enhancing the existing literature on the effectiveness of cultural organizations by scrutinizing the influence of digitization on their communication strategies. Furthermore, it identifies the drivers and factors that contribute to the sustainable valorization of cultural heritage. Additionally, the article presents a practical list of currently available technologies that can assist tourism professionals in mitigating the negative effects of overtourism and in regenerating inland areas. By addressing these intertwined issues, the article aims to provide valuable insights to cultural managers, scholars, policymakers, and practitioners interested in promoting sustainable tourism practices and fostering the revitalization of neglected inland regions, thus contributing to the comprehensive development of the cultural heritage and tourism sectors.

*Keywords: Cultural Heritage, Digitalization, Emotions, Accounting Culture, Virtual museums, Immersive museums, Virtual Reality, Augmented Reality, Mixed Reality, Extended Reality.*

## CULTURE-DRIVEN URBAN REGENERATION: TRANSFORMING CITIES THROUGH CREATIVITY AND TECHNOLOGY

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### ABSTRACT

The article investigates how culture and technology are reshaping the role of cities and their contributions to public value creation. A multiple case study approach is used to examine successful urban regeneration projects through culture and technology, with a focus on redevelopment of "postindustrial cities". Furthermore, it analyzes the transition from industrial activities towards activities related to the fields of culture, creativity, and tourism, capable of enhancing a sustainable economic and social revitalization. For this purpose, the article aims to illustrate how creative and cultural branding strategies can modify the former image of an industrial city and renew the local specializations representing a territory's identity. The article considers the role of culture-driven urban regeneration central in creating new forms of entrepreneurialism able to promote a sustainable urban development and contributing to public value creation.

*Keywords: Public Value, Urban Regeneration, Urban Branding, Cities, Cultural products, Creative Industries, Technology.*

# THE EFFECT OF THE NUMBER OF CONTROLS ON USER PERCEPTION OF INTERACTIVE PRODUCTS

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## ABSTRACT

### INTRODUCTION

As technology evolves, adding enhanced functionality to products becomes more feasible. This development is highlighted in the works of Thompson et al. (2005), who note that both software and hardware advancements have paved the way for more functional interactive products with fewer controls. Tannen (2009) further explains how automation has revolutionized the execution of complex processes, making them accessible at the click of a button. Despite these advancements, a primary challenge for manufacturers and designers of interactive products remains to comprehend consumer preferences (e.g., Eytam, 2023). Experts in Human-Computer Interaction (HCI) advocate for simplicity in design, suggesting that consumers prefer a limited number of user-friendly controls. Researchers such as Norman (1988), Nielsen (1999), and Maeda (2006), support this perspective. They argue that designs with fewer controls not only facilitate efficiency and effectiveness but also enhance clarity, ease of learning, and operation by focusing on essential features and eliminating the superfluous. This minimalist approach to interactive product design, prominently led by Apple's aesthetic innovations and Google's single-control search interface, has been a successful marketing strategy. However, contrasting this trend, Norman's studies from 1998, 2007, and 2010 indicate that products with multiple controls often enjoy higher sales and pricing. This discrepancy suggests a complex relationship between expert design principles and consumer purchasing behaviors, revealing an intriguing aspect of product design and marketing.

### PURPOSE

The primary goal of this research is to investigate the notable disparity between expert recommendations for minimalist control designs in products and the consumer inclination towards choosing products with multiple controls. Our approach involved conducting two sequential studies. The first study utilized a qualitative methodology, relying on interviews to gather insights. The second study employed a quantitative approach, focusing on the measurement of user preferences. Through these studies, we aimed to analyse and document the impact of the number of controls on

user preference and their perception of product quality. This exploration seeks to provide a deeper understanding of the factors influencing consumer choices and product design preferences.

## **METHODOLOGY**

Twenty individuals with diverse ages, genders, and professions participated in semi-structured interviews for this study. The initial segment of each interview involved presenting the participants with ten generic illustrations of product control panels. These illustrations were intentionally designed to be ambiguous, not revealing the intended use or purpose of the products. Each control panel varied in the number of controls, simulating a scenario where individuals assess a product prior to actual usage. In the second segment of the interview, we inquired about the participants' typical methods for evaluating products and the specific product attributes that influence their purchasing decisions. Following this, a separate study was conducted with 114 participants. In this phase, they were asked to express their preferences concerning 30 different illustrations of interactive products, each featuring a varying number of controls. These controls were categorized into four distinct types based on their shape (round or rectangular) and size (large or small), allowing us to observe preferences in a more nuanced manner. This methodical approach aimed to provide a comprehensive understanding of how control design influences consumer preferences.

## **RESULTS**

The qualitative study uncovered a unanimous trend among participants: the number of controls on a product was consistently used as an indicator of its quality. However, when we analyzed the data based on the age groups of the participants, a pattern emerged. For those aged 30 and above, a smaller number of controls was often associated with ease-of-use, but they also perceived it as a sign of limited functionality. This demographic tended to view each control as representative of a single feature, leading them to conclude that fewer controls equated to fewer features. Conversely, participants younger than 30 shared the perception that fewer controls suggested ease of use, but their interpretation differed significantly from the older cohort. This younger group associated fewer controls with advanced automation, perceiving such products as more innovative and capable of higher functionality. Despite these differing perspectives on innovation and functionality, both age groups agreed that products with a larger number of controls appeared more challenging to use yet were likely to offer a broader range of functionalities. This insight highlights the complex relationship between user perception of product design and age-related user expectations. In the quantitative study, participants were asked to use a Likert scale (containing a range between one and seven) to rate their preferences among illustrations of panels that presented different numbers of controls. The

results revealed that the number of controls included in the panel was significantly and negatively correlated to the preference ratings of the product. The highest preference (with a scale rating higher than five) was given to panels with three or four controls. The lowest preference (with a rating lower than four on the scale) was given to the panels with more than 42 controls. Panels with a single type of control were judged as easier to use than those with two to four types of controls. The presence of a greater variety of control shapes and sizes was judged as more difficult to use. Shape and size of the controls together with their number served as significant predictors of product quality perception.

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## ROBOTIC PROCESS AUTOMATION AS AN INTEGRAL PART OF DIGITAL TRANSFORMATION

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### ABSTRACT

Digital transformation is a critical priority for leaders in almost every industry, as it can support organizations in increasing their performance and making them more resilient. Within this context, robotic process automation (RPA) is a promising technology that can help companies automate time-consuming and repetitive tasks, enabling them to improve efficiency and productivity and save valuable resources. Despite the growing interest in RPA, there is still limited empirical evidence on how it can effectively support companies, highlighting business benefits and challenges. This research examines the impact of RPA on supporting companies' digital transformation, analyzing two real-life cases from the banking and private sector. The results provide valuable insights for research in the field, entrepreneurs, and managers. In addition, it highlights future research avenues and further strategic roles of RPA, mainly when competing with Artificial Intelligence (AI).

*Keywords: Digital Transformation, Robotic Process Automation, Benefits, Challenges, Artificial Intelligence*

## CIRCULAR ECONOMY IN THE LITHIUM-ION BATTERY INDUSTRY: STATE OF THE ART IN MANAGEMENT LITERATURE

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### ABSTRACT

Scarce resources and pollution have increased interest in circular economy models also in the lithium-ion battery sector (LIB) (Gu et al., 2017; Liu et al., 2019; Kim et al., 2021). The industry (LIB) is growing and there is a need to manage the supply chain and sustainable use of these systems in the mobile consumer devices, industrial and domestic equipment, stationary energy storage systems, and electric mobility markets (Hanish et al., 2015; Tsiropoulos et al., 2018; Winslow et al., 2018; Martins et al., 2021; Chizaryfard et al., 2023).

The current scientific production on LIBs seems to have a predominantly technical-engineering character focused on realisation, production and recycling. At the same time, there is no relevant research work on economic-managerial topics studying the topic of the circular economy in the LIB industry.

By means of a bibliometric investigation, the literature on the circular economy in the LIB industry was deepened by extracting useful concepts to define managerial implications and possible future studies from a management perspective.

Bibliometric analysis makes it possible to analyse the current state of the art (Mukherjee, 2022; Fan et al., 2022) and, through the application of quantitative techniques on bibliographic data (Donthu et al., 2021), provides useful insights, identifying theoretical and practical implications and capturing emerging trends. Through the query (( "batter\*" ) and ("lithium-ion" or "li-ion") and ("recycl\*" or "reus\*" or "recover\*" or "redesign\*" or "regenerat\*" or "remanufactur\*\*" or "redefin\*" or "repair\*" or "reform\*" or "refus\*" or "rethink\*" or "reduc\*" or "reclaim\*" or "reprocess\*" or "circular economy" or "circularity" or "circular\*")) data were extracted from Scopus for the definition of the dataset (limit categories: Business, Management and Accounting, English language, scientific articles and grey literature). After reading the selected papers (338), each individually, we eliminated those inconsistent with the work (15) obtaining a dataset of 323 contributions.

Using Bibliometrics, through performance analysis we examined the evolution of productivity and the impact of research on the topic of investigation (Mukherjee, 2022).

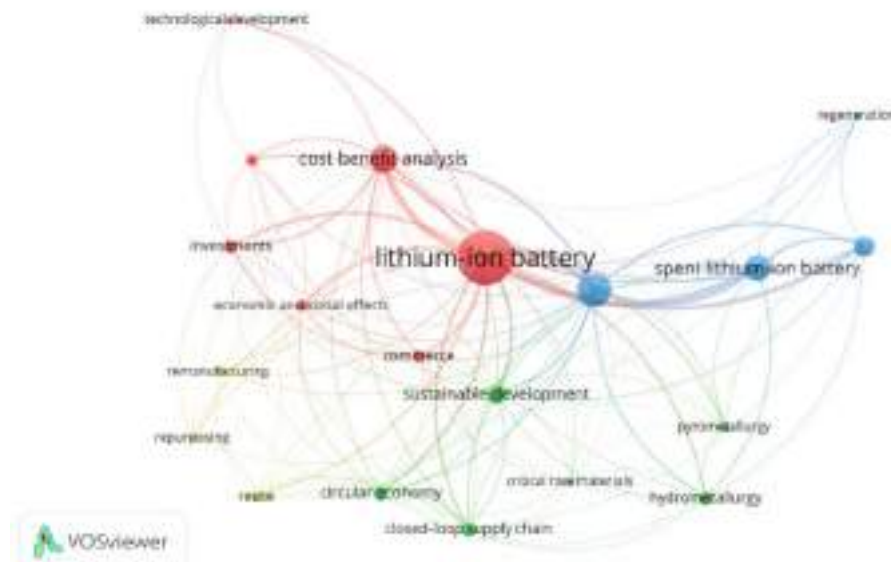
The scientific production is unevenly distributed between 2002 and 2016. An increasing trend is registered between 2016 and 2020. After a reduction in contributions in 2021, from 2022, an albeit minimal growth is recorded from 2023. Growth is expected for the current year, as productivity has



exceeded that of the year 2023 by more than 50 percent. The discontinuous trend is also noted when calculating the average citations per year, with a maximum level found in 2018 (13.5) followed by a decreasing trend until 2023 (1.46). A further decrease is also likely to occur by 2024 since it stood at 0.004 as of the date of the analysis. The journal considered most relevant in terms of publications available is Journal of Cleaner Production (208 articles) followed by journals with smaller numbers of publications. The most productive author is Na N. with 20 articles published with discontinuity between 2002 and 2022. However, his articles have a very low number of citations per year. He is followed by Zhang Y. with 17 articles and a number of citations per year with values above 70 in 2018 and 100 in 2019, and Li J. with 10 articles between 2018 and 2024 and a good number of citations. Three Chinese universities are at the first places for research interest in circular economy in LIB industry; USA and Germany follow. The 10 most cited papers were published in Journal of Cleaner Production with citations ranging from over 180 to over 470. In the most cited article, Lipu et al. (2018) compare models for estimating the health and remaining life of LIBs. The results show that LIB recycling via hydrometallurgical, pyrometallurgical and direct recycling systems is relevant for market and sustainability objectives.

Science mapping (Zupic, Čater, 2015), using VOSViewer, enabled the identification of 4 thematic clusters (with a total of 20 items of a managerial nature - Figure 1 - comments in table 1) after selecting keywords (149) that recur 5 times and using the thesaurus.

Figure 1 - Output of co-occurrence analysis



Source: our elaboration

| Table 1. Comments to the clusters   |                  |  |
|---|------------------|--|
| Cluster type  |                  | Items  |
| 1   | RED – 7 items    | lithium-ion battery (main node), commerce, cost benefit analysis, decision making, economic and social effects, investments, technological development |
| The keywords in this cluster are related because the decision-making process is based on the cost-benefit analysis, economic and social effects of investments for the technological development of LIB in a circular economy model.                      |                  |  |
| 2   | GREEN - 6 items  | sustainable development (main node) circular economy, closed-loop supply chain, critical raw materials, hydrometallurgy, pyrometallurgy,               |
| The emerging theme concerns the implementation of circularity and closing the supply cycle through hydrometallurgical and pyrometallurgical processes to recover critical materials from lithium batteries, thus contributing to sustainable development. |                  |  |
| 3   | BLU – 4 items    | recycling (main node), recovery, regeneration, spent lithium-ion battery   |
| The focus is on enhancing the circular economy through recycling, recovery and regeneration of materials extracted from spent lithium batteries with positive effects on the useful life and environmental impact of your disposal.                       |                  |  |
| 4   | YELLOW – 3 items | reuse (main node), remanufacturing, repurposing  |
| In this cluster circular economic process practices are emphasised by extending the life of products, maximising the use of available resources and reducing the consumption of natural resources.  |                  |  |
| Source: our elaboration   |                  |  |

The findings highlight a prominent focus on technical-engineering aspects in the current literature regarding LIB markets. The lack of scientific research on management and business within this market is attributed to its dynamic nature, marked by significant recent changes. Battery production predominantly relies on virgin raw materials, with only recent attention given to themes of reuse and recycling, driven by environmental concerns and the expansion of electric vehicle and solar panels for buildings.

The focus on reusing, recycling, and developing a circular economy for batteries primarily stems from corporate social responsibility and environmental concerns rather than cost considerations. Some countries enforce laws requiring a percentage of recycled materials in battery production. Despite this, research on business models, management, and marketing in these areas is still nascent. However, there's anticipation for increased interest due to emerging opportunities for companies to optimize processes, address relational challenges, and adapt to market dynamics. This suggests several implications (Table 2) for companies and practitioners to consider in the medium to long term.

| Table 2. Practical implications  |
|--|
| The role of relationships between companies in lifecycle management. Looking at the evolution of markets, complex contractual relationships among companies of different sizes will emerge in the entire process of managing the circular economy. Relationships will be shaped by evolving laws or, differently, by evolving batteries adoption.  |
| Strategic resource management choices. The evolving batteries markets is shaping global relations, supply chain management strategies and the dynamics of creation and transfer of economic and non-economic value in the procurement and processing and assembly of materials and components, even considering sustainability management and circular economy perspectives.   |
| Strategic B2B and B2C relationships. The circularity in the LIB market can derive from the company side, looking at the relationships and strategic agreement among companies within the LIB market from the raw material procurement till the production and application of the battery on devices. At the same time, the interest of consumers in adopting of different types of devices powered by batteries can be different and it can change looking at the multiple solutions on the market where the battery can be integrated to the device or, differently, it can be considered in the product-as-a-service solution. |
| Source: our elaboration  |

About the future research, we intend to deepen this study by triangulating the results through quantitative content analysis. One of the main limitations of this research is due to the composition of the dataset, which could be expanded by using additional databases to validate and extend our study.

*Keywords: circular economy, lithium-ion battery, sustainability, management literature, bibliometric analysis, content analysis.*

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## LGBTQ-THEMED ADVERTISING: A BIBLIOMETRIC ANALYSIS

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### ABSTRACT

### INTRODUCTION

In the past five decades, researchers from a wide variety of disciplines such as marketing, psychology, sociology, and health have produced relevant documents on advertising targeting LGBTQ consumers. Nevertheless, it resulted in fragmented knowledge that creates a real challenge for researchers in tracing the evolution of the research focus. This focus has moved from the debate on how to present gay imagery to the comparison of mainstream and gay window ads, and later to the analysis of the effects of advertising targeting LGBTQ consumers, considering the gender of participants and actors. More recently, the research focused on the measure of attitudes toward advertising and homosexuality (Gong, 2019; Oakenfull et al., 2008; Puntoni et al., 2011) and processing advertising information (Bhat et al., 1998).

We apply bibliometric analysis to enhance the understanding of advertising targeting LGBTQ consumers. We aim to uncover research trends by closely examining thematic clusters, assessing the maturity of the research topic, and suggesting potential directions for future studies.

### METHODOLOGY

Researchers from different fields use bibliometric analysis when studying various marketing topics, such as brand relationships and comparative advertising (Donthu et al., 2021). Our paper considers the best practices that should be followed to overcome the limitations of this type of analysis (Archambault and Gagné, 2024; Donthu et al., 2021; Keathley-Herring et al., 2016; Snyder, 2019), namely potential biases in selection and interpretation associated with qualitative reviews (Montecchi et al., 2024).

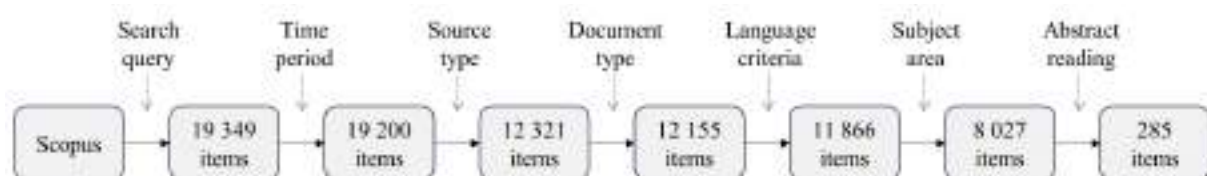


Figure 1: Summary of the screening process (authors' elaboration)

In February 2024, we obtained 19,349 papers from Scopus, the largest high-quality multidisciplinary database for peer-reviewed literature in social science research (Donthu et al., 2021; Kumar et al., 2021; Veloutsou et al., 2021). We targeted focal keywords (such as lgb\*, glb\*, queer, gay, lesbian, transgender, homosexual) and contextual keywords (e.g., adverti\*) within the titles, abstracts, and keywords of documents, covering publications from 1976 to 2023. Our focus was solely on journals and conference proceedings, considering articles, reviews, and conference papers. We excluded non-English-language documents and those outside the scope of Social Sciences, Business, Management, and Accounting, Economics, Econometrics, and Finance, and Multidisciplinary subject areas.

Based on the final dataset, we scrutinized titles, keywords, and abstracts of all retrieved documents, resulting in the exclusion of 7,742 documents that were outside the study's scope. The next step consisted of eliminating duplicates and erroneous entries, such as articles without authors, and adding missing information, following the guideline that each author should have only one valid affiliation at the time of publication (Donthu et al., 2021). Additionally, we corrected misspellings in keywords, and standardized words, and ignored differences between singular and plural forms, acronyms, mixed wording, and variations between American and British English.

## RESULTS

We used different bibliometric techniques described by Donthu et al. (2021) that allowed us to identify the most productive countries, journals, influential authors, papers, and research clusters.

We divided the 285 documents into three periods of time, based on insights from the queer theory (Kates, 1999): 1976-2011, 2012-2019, and 2020-2023. The average yearly publications were 4, 11, and 26, respectively, suggesting a growing academic interest in the topic of advertising targeting LGBTQ consumers. Documents with North American (174) and European (56) affiliations account for 93%, 84%, and 76% of each period, respectively. Representing a quarter of the citations, 47.72% of the documents were published between 2017 and 2023.

The top 5 journals, all ranked in Scimago's Q1 category (SCImago, 2023), account for a quarter of the documents retrieved in Scopus: Journal of Homosexuality (35), Journal of Advertising (16), International Journal of Advertising (8), Tobacco Control (7), and Journal of Advertising Research (6). The 142 journal titles that published the 285 documents reflect a broad spectrum of research interests, and the high quality of these sources is assured by 89% of the journals classified as Q1 and Q2.

Among the 545 authors that contributed to the 285 publications, 105 researchers solely authored 120 items, while the remaining collaborated as co-authors. Notably, Ciszek E. and Oakenfull G.K. each have an H-Index of 6, with 7 and 6 publications, respectively. Um H.-H. and Eisend M. present an H-

Index of 5, supported by 6 and 5 publications respectively. Although Grier S.A. ranks in fifth with an H-Index of 4, based in 4 articles, he is a co-author of the 2 most highly cited articles with 216 and 191 citations.

Using VOSViewer, we have identified 6 keyword clusters. The top keywords, collectively accounting for half of the occurrences, are advertising, human, male, female, homosexuality, adult, article, lesbian, gender, LGBTQ, sexuality, marketing, and United States.

## FINDINGS

Our study corroborates the idea that academic research focus shifted from the debate over whether to include homosexuality imagery in advertising to the study of factors influencing perceptions of homosexuality (Gong, 2019). During the 1990s, brands applied techniques like gay window advertising, using ambiguous images of sexual preferences to create ads identifiable by LGBTQ consumers while remaining vague to mainstream consumers. Another technique involved the use of implicit gay imagery, such as iconography and symbolism (Grier and Brumbaugh, 1999; Penaloza, 1996). However, recent studies suggest that including homosexual portrayals in mainstream advertising may be less risky than marketers expect, as it may not negatively affect consumer attitudes toward the brand and the product, nor consumer purchase intentions (Holz Ivory, 2019). The selection of keywords by authors over time reinforce this conclusion.

The analysis also unveils new focuses of research on advertising targeting LGBTQ consumers: the studies exploring representation and storytelling, considering authentic stories as tools for inclusion (Zayer et al., 2023), and the emergence of rainbow-washing topic points out the growing attention to the authenticity of LGBTQ-focused advertising efforts (Zayer et al., 2023).

## CONTRIBUTION OF THE STUDY

Our study is the first bibliometric analysis on the topic of advertising targeting LGBTQ consumers. We integrate publications from various disciplines, not only contributing to the broad understanding of the evolution, status, and trends of the research topic, but also proposing future research directions.

Our contribution to managers consists in the identification of contemporary concerns, namely authenticity issues, that will benefit the companies' advertising strategies and the way they communicate with LGBTQ consumers.

*Keywords: LGBT, Bibliometric Analysis, Advertising, Advertisement*

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## SMART INDUSTRY IN AGRIBUSINESS: CASE STUDIES FROM ITALY

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### ABSTRACT

The impacts of innovation within the agricultural sector have notably intensified in recent years. An intriguing phenomenon is the cross-contamination of technologies and competences from diverse sectors, profoundly influencing the evolution and revitalisation of agriculture. While numerous scholars have concentrated on dissecting the effects of specific technologies and methodologies in agribusiness, we contend that comprehending the broader impact of the smart industry, not confined to individual technologies or skills, is of paramount interest. Our study, characterised by its exploratory nature, employs a qualitative analysis approach. We have identified four pertinent case studies of companies situated in the Tuscany region of Italy. The findings gleaned from a cross-case comparison have yielded compelling insights for both scholarly discourse and managerial practice.

*Keywords* Agribusiness, Entrepreneurship, Innovation, Smart Industry, Precision Agriculture, Case Study

## **BUSINESS MODELS APPLIED TO THE INTERMODALITY OF PERISHABLE PRODUCTS**

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### **ABSTRACT**

In recent years, public administrations have attempted to promote a shift from road transportation to maritime transportation, through intermodality, to achieve a rebalancing of the transportation sector. In theory, this change would not only have positive effects on the environment and society as a whole but also for the companies involved. However, supply chain members continue to be reluctant to apply this change (Pérez-Mesa, 2022). In every real competitive situation, the particular characteristics of the company, sector circumstances, and competitor details present unique challenges and opportunities. In this context, this study proposes that the concept of a business model can become a useful integrative framework for strategy formulation and execution.

The main objective of this study is to discover new arguments in favor of promoting intermodality for the transportation of highly perishable products, beyond those merely related to shortening transit times or reducing costs. Through a literature review, this study aims to identify innovative examples of business models that are facilitating the implementation of intermodality in transportation, meaning the actual application of modal shift strategy. Specifically, it aims to promote intermodality based on short sea shipping (SSS) specifically for perishable products in the agri-food sector. This particular case is especially challenging due to the need for rigorous supply chain management, as food quality and safety may be compromised during transportation.

The BM is a practical tool that allows describing and analyzing how a company carries out its activities. This description may include several components, with the most common being (Richardson, 2005): 1) offering; 2) target audience; 3) main strategy; 4) necessary resources and capabilities; 5) organization of the value chain; 6) position in the value network; 7) revenue source; 8) business economics. The BM plays a fundamental role in the execution of business strategies by providing the structure and means to implement and achieve the organization's objectives (Mikl et al., 2021). On the other hand, intermodality refers to the coordinated and efficient use of different modes of transportation (road, rail, maritime, air) to carry out a logistics chain or journey in an integrated and uninterrupted manner. Intermodality seeks to optimize resources, reduce costs and times (Yakavenka et al., 2020), and minimize environmental impact (Rossi et al., 2021).

A priori, the intersection between business models and intermodality has a special opportunity for development in the transport and logistics sector through 1) innovation, where transportation and logistics companies can innovate in their business models to offer more efficient and attractive intermodal solutions to their customers; for example, integrated logistics services simplifying processes for customers and reducing costs (Monios and Bergqvist, 2015). 2) Improvement of collaboration and coordination, meaning other business models based on stable formulations may exist, where business collaboration within the supply chain is the key component (Stål et al., 2022). 3) Application of technology and digitization: technology plays a fundamental role in optimizing intermodality and improving business models in the transportation sector. In this sense, from an operational perspective, the digitization of logistics management represents the catalyst in the development of successful business models that can improve business sustainability (Pal and Kant, 2019) and, therefore, accelerate the implementation of the modal shift process. In summary, business models and intermodality are closely related in the transportation and logistics field, as both focus on efficiency, resource optimization, and delivering value to customers. Innovation, collaboration, and technology are key to making the most of the opportunities offered by these concepts.

*Keywords: business model; innovation; intermodality; supply chain; perishables.*

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## MAPPING GAMIFICATION IN THE CONSUMPTION CONTEXT: A SYSTEMATIC LITERATURE REVIEW

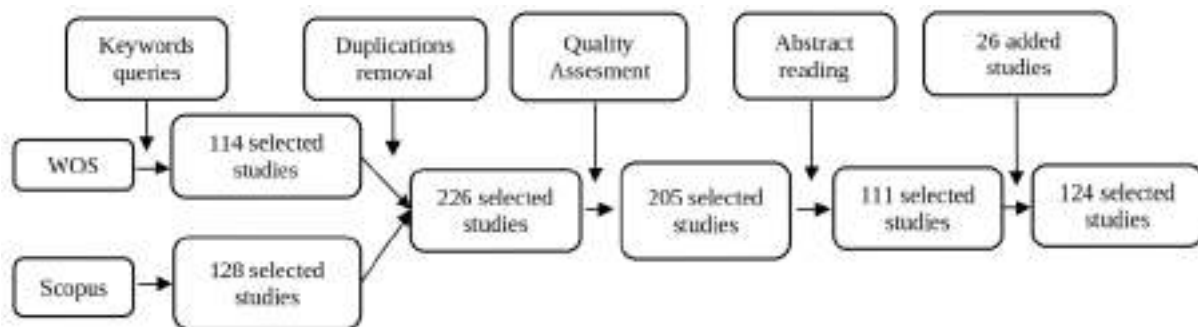
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### ABSTRACT

This research provides an overview of the current state of the art in gamification. To do this, a systematic review of the literature (Tranfield et al., 2003; Loureiro et al., 2020) was conducted to map gamification. This systematic analysis is composed of articles, conference papers, and books published between 2004 and October 2023. This study analyzes the objectives, methodologies, theories, constructs (antecedents, moderators, mediators, consequences), main conclusions, main gaps, limitations, and indications for future research, that are relevant to this research.

**Figure 1.** Screening process



**Source:** author's elaboration

The studies for this research were extracted from two large online libraries, Web of Science and Scopus, from which 114 and 128 studies were extracted respectively. First, regarding the extraction on two different platforms, duplicate studies were removed (16 studies). Subsequently, quality was assessed, considering the rank of journals in Scimago 2022 (SJR 2022) and JCR 2022 that are between quartiles 3 and 1, thus reducing the list to 205 studies. After that, the content of the title and abstract was assessed and 94 studies that were not relevant to this research were removed.

After reading the 111 studies, 13 studies were removed for not having relevant content and meeting the quality criteria applied in other studies. (Macpherson and Holt, 2007; Pittaway et al., 2004). Furthermore, it emerged that 26 studies were constantly being cited, but were not included in the initial search. Therefore, given the relevance of these studies, they were included. Most of the studies added (16) with relevant citations are from the sector technology and, therefore, they were included in

this systematic review, which thus left the final number of 124 studies to analyze, of which 82 are articles, 41 are conference papers and 1 is a book (see figure 1).

From 2013 to 2023, around 82 articles were published in various journals, such as *Computers in Human Behavior*, *International Journal of Information Management*, *Journal of Interactive Marketing*, *International Journal of Retail and Distribution Management*, and *Business Horizons* of which represent 22% of this type of document. The year with the highest number of publications was 2022. In that year there was a wide variety of journals that contributed to the scientific community (21% of all journals with publications) since there was one publication per journal. Some examples of journals that were published that year are: *Electronic Commerce Research* and the *International Journal of Advertising and Tourism Management*.

In terms of conference papers, 41 studies were published at the following conferences: *CEUR Workshop Proceedings*, *ACM International Conference Proceeding Series*, and *SIGCSE 2021 - Proceedings of the 52nd ACM Technical Symposium on Computer Science Education* of which represent 22% of all conference papers. Similar to articles, the number of publications has been increasing over the years, with the first year there was a study published being 2004 and the year with the highest number of publications being 2020.

Concerning the sectors used by the studies analyzed in this literature review, 27% of the studies deal with gamification in general. In terms of specific sectors, most studies are aimed at the Education (31%), Retail (15%) and Healthcare (8%) sectors.

Concerning the methodologies used in the studies, 52 are quantitative, 38 are qualitative, 20 are literature reviews, 10 are mixed methods and 4 are conceptual.

Regarding the theories used, 93 theories were identified throughout the studies analyzed, but only 11 theories (12% of all theories) were cited more than once.

The most referenced theories in the studies analyzed in this research are, as follows, Self-Determination Theory (Deci and Ryan, 1985), Flow Theory (Csikszentmihalyi, 1975), MDE Framework (Plangger et al., 2016), MDA Framework (Hunicke et al., 2004), TAM (Davis, 1989), Theory Planned Behavior (Ajzen, 1988, 2020; Sussman and Gifford, 2019) and Stimulus-Organism-Response (Woodworth, 1929).

The systematic analysis of the literature also identified the main constructs used in this field of research. The most frequent antecedents are Gamification (33%), followed by Challenge (6%), representing a total of 39% of the antecedents, where the rest are used only in the respective article. Within mediators, the most frequently used are Customer Experience (14%) and Emotions (7%). The moderators, on the other hand, there is no discrepancy in the variables, with only one use per article, e.g. moderators: Customer Engagement, Price Discount, Satisfaction, and Perceived Usefulness.

Finally, consequently, the most frequent variables are Behavioral Intention (8%), Customer Intention (8%), and Perceived Learning (5%).

The findings of this systematic literature review provide a framework to show the main constructs and relationships used to study gamification, present gaps in the literature, and point to avenues for future research, as well as provide businesses with some pointers for best practices.

*Keywords: Gamification, Customer Experience, Systematic Literature Review, Gameful Experience, Gamified Experience, Retail*

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## TEACHERS' BURNOUT SYNDROME IN PUBLIC SPECIAL SCHOOLS IN GREECE IN THE POST COVID 19 ERA

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### ABSTRACT

#### CONCEPTUAL BACKGROUND

The present study investigates the burnout syndrome among secondary education school teachers, who work in public special schools in the city of Piraeus in Greece. As we are going through a very difficult period because of the post-Covid era, the wars, and the migration waves teachers face many challenges in the workplace (Linos *et al.*, 2021). Moreover, teaching in special education schools is often overwhelming and stressful (Rohmer *et al.*, 2024). Teachers report increased levels of stress, communication difficulties, and a lack of administrative support (Pressley, 2021). Specifically, a report addressed to UNESCO (Holmes *et al.*, 2020) emphasizes the importance of studying the psychological effects of factors such as burnout, so that the acquired knowledge can be used to prevent and alleviate the difficulties teachers face. Maslach and Jackson (1981) define burnout syndrome as a psychological syndrome that consists of three components: 1) emotional exhaustion, 2) depersonalization, and 3) reduced personal achievement, which can occur among people who work with other people and especially in the service sector, and after a short time can become chronic, resulting in negative health changes (Edú-Valsania *et al.*, 2022). The root of burnout syndrome lies mainly in the working environment (Maslach & Leiter, 1997). However, each person is affected by personal risk factors that make them vulnerable (Ramírez-Elvira *et al.*, 2021). Burnout is a multidimensional phenomenon that arises when an individual's capacity to manage stress results in feelings of physical and emotional exhaustion, cynicism, and unfulfilled accomplishment (Garwood, 2023). Especially teachers in special education are at high risk of job burnout (Garwood *et al.*, 2018). Burnout in conjunction with other illnesses can affect the educational system by influencing the objectives of instruction, the learning environment, and the caliber of learning, and can result in withdrawal from the relationships between students and teachers and feelings of inadequacy which unintentionally harm the class and the whole school (Brittle, 2020). These elements may intensify problems related to teacher burnout, leading to medical, psychological, and social issues, reduction in productivity, and unfavorable outcomes for the teaching and learning processes of students (Li *et al.*, 2020; Ramos *et al.*, 2023). A survey by Küçükşüleymanoglu (2011) shows that teachers who work with students who have special educational needs and disabilities are more vulnerable to high levels of stress and burnout. Compared to teachers in typical schools, special educational needs and disabilities teachers report feeling more

exhausted and stressed. In a study that was conducted among 664 special education teachers concerning their levels of burnout, job satisfaction, and occupation engagement it was noted that the participants' profile age, educational level, location, and teaching experience reveal differences in burnout levels (Antoniou et al., 2024). Furthermore, Kamtsios's (2018) study in a sample of 1447 teachers of all levels, concludes that all three dimensions of burnout change during the different stages of teachers' professional development, and shows that as the years pass, the levels of burnout increase. Although research has looked into the phenomenon of burnout among teachers in Greece, there is a lack of studies on burnout of teachers in special schools, who are exposed to greater stress levels. The purpose of this research is to further investigate burnout syndrome in Greek secondary special education school teachers.

## **METHODOLOGY**

The Maslach, Jackson, and Schwab (1996) (Maslach Burnout Inventory- MBI-ES) questionnaire was distributed to a total of 125 special education teachers (29 males and 96 females) who participated in this study. The Maslach Burnout Inventory questionnaire consists of 22 items and examines on a 7-point Likert scale, three dimensions of teachers' burnout when teaching students with disabilities and/or special educational needs. These dimensions are emotional exhaustion, depersonalization, and reduced personal achievement. The questionnaire was developed in Google Forms and sent by email to Special Education teachers in the Region of Piraeus, in Attica.

## **RESULTS**

Results showcase that most of the participants are between 36-45 years of age (51.2%) and married (71%). 72.8% hold a master's degree of which 54.4 % have a degree in special education, and finally 36% work in special education schools for 2-5 years. The suitability of the sample appears to be at a satisfactory level (KMO =0.841, Bartlett's Test of Sphericity  $X^2(231) = 1280.2, p = .000$ ). Results of the Exploratory Factor Analysis show that all factors explain 51.38 % of the total variance. Internal consistency of the scale was examined with the Cronbach alpha coefficient that was higher than .73 for all dimensions. Descriptive analysis shows that the most significant factor is emotional exhaustion, whereas moderate depersonalization has moderate significance and personal achievements have low significance. However, none of the three contributing factors has a statistically significant effect. In addition, demographic data, such as age, gender, and marital status do not have a statistically significant effect on burnout syndrome, while having children in the family appears to affect the emotional exhaustion levels of teachers in the study. Finally, the parameters related to the additional



educational expertise are also found not to have a statistically significant effect on burnout syndrome, whereas many years of work experience have a significant effect on emotional exhaustion.

## DISCUSSION-IMPLICATIONS

In conclusion, the study shows (a) the sample of teachers shows high levels of emotional exhaustion, moderate levels of depersonalization and low levels of personal achievements, (b) demographic data, i.e., age, gender, marital status, and further education do not have a statistically significant effect on burnout syndrome. Results about the high levels of burnout among special education teachers are in line with previous studies (Küçüksüleymanoglu, 2011; Antoniou et al., 2024) whereas the role of demographic data on burnout is in contradiction with previous surveys (Antoniou et al., 2024; Kamtsios, 2018). Only teachers' work experience and having children influence the level of emotional exhaustion perceived. Since the internal characteristics of teachers do not seem to play a significant role for experiencing burnout syndrome, the only way to cope with such problems is for schools to set and apply specific managerial policies related to human resources and quality standards in the educational process and strengthen collaborations with stakeholders and agencies such as the Institute of Educational Policy, the Center for Interdisciplinary Assessment, Counseling and Support and the Association of Parents and Guardians, that can help in the implementation of policies that are able to reduce teachers' burnout syndrome. Such policies can be considered part of an innovative management system that can provide a competitive advantage related to the internal strategy and policy of Greek special education schools (Kaleli et al., 2024).

*Keywords: Burnout syndrome, public special education schools, teachers, emotional exhaustion, depersonalization, reduced personal achievement, job burnout*

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## STRENGTHENING COMPETENCES TO ENHANCE PROFESSIONAL MOBILITY IN THE EXPLOSIVES SECTOR

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### ABSTRACT

Over the past two decades, the explosives industry in Europe has contracted significantly. Manufacturing and production have largely transitioned to the private sector, and similar changes have occurred in ordnance research activities. The global economic crisis started in the summer of 2007 exacerbated this decline, leading many companies to declare bankruptcy and prompting early retirements among employees seeking to avoid significant salary cuts (European Commission, 2017). As a result, recruitment within the explosives industry has markedly declined, leading to a substantial reduction in the number of skilled specialists (EUROSTAT, 2024). In many European countries, a significant proportion of the most experienced and knowledgeable personnel in this field are now retiring. In today's world, professional mobility has increased significantly. Employees no longer operate solely within their own company or home country but often work across various companies and countries. Consequently, it is essential for employees to possess comprehensive knowledge to effectively carry out their tasks. Additionally, work tasks evolve rapidly, requiring employees to adapt quickly.

This paper examines the European Qualifications Framework, focusing on the transferability of qualifications and credits between states and territories. It explores various schemes for acquiring and recognizing knowledge in the explosives sector and identifies the barriers that hinder the recognition of qualifications and skills, impeding worker mobility. Additionally, it discusses the main results achieved by four European projects in which the author is a participant (Akhavan *et al.*, 2009; IEXPE, 2015, Góis and Rodrigues, 2017, PECCS, 2024).

Thirteen countries (the United Kingdom, Sweden, Norway, Latvia, Italy, Ireland, Portugal, Germany, France, Estonia, Czechia, Finland, and Lithuania) participated in the projects, resulting in several key achievements: (1) the construction of a map to describe and categorize competencies in the manufacture and use of explosives; (2) the development of a European network to standardize procedures for issuing certificates and accrediting competencies; (3) the creation of practical guidance and support for implementing occupational standards in the explosives sector for both civilian and military applications; and (4) the development of training materials and a guidebook for educators to train European blasters. Despite efforts to promote the convergence of Vocational Education and

Training (VET) across Europe, mobility within the explosives sector remains low. Many countries still have outdated regulations, and the European Qualifications Framework is often too abstract to facilitate the transfer of skill levels. The principle of mutual recognition stipulates that registered training organizations must recognize qualifications awarded by other registered training organizations. However, the recognition of qualifications and competencies from other education and training systems is not always guaranteed in most European countries. Additionally, the complexity of assessment systems can hinder the establishment of equivalencies. While the concept of recognizing work experience to shorten training duration is widespread in many continuing training schemes, the idea of omitting examinations leading to certification marks a cultural shift in numerous countries. The current push for developing schemes to validate experience-based knowledge has spurred the search for new techniques to establish benchmarks. The assessment of experiential learning presents greater challenges compared to the evaluation of training-based knowledge. Work experience is gained in diverse contexts, and the acquired knowledge may not necessarily align with a predefined set of information. In many countries, the recognition of prior learning and the application of credit transfers based on hours have not been commonly utilized in the vocational education sector. E-learning methods for certification are increasingly regarded as the future, offering an interactive learning experience and step-by-step guidance. Through an online account, students can access various courses to be completed throughout their studies. This approach allows students to schedule exam appointments at the nearest test site when they feel adequately prepared. The current drive to develop schemes that validate experience-based knowledge is fostering the exploration of new techniques for establishing benchmarks. The desire of professionals to work in other countries is often fueled by local job opportunities, resulting in relatively short durations of employment. In Europe, many companies in the civil explosives sector operate transnationally, necessitating employees to work across multiple countries. Apart from competencies in explosives science and technology, national security clearance is often a prerequisite enforced by national authorities for obtaining a license to handle explosives. Indeed, effective communication and clear transmission of orders are essential in blasting operations, and the diverse languages spoken in Europe pose an additional challenge to mobility. In the explosives sector, professional training still heavily relies on traditional methods, and courses and practices are adopted based on varying knowledge requirements dictated by the nature of explosives and blasting domains. Consequently, different blaster certificates are available to accommodate these diverse needs. Currently, there is no European regulating board assessing or enforcing competencies in the explosives sector. However, these projects suggest that despite the diverse nature of explosives and their usage domains, it is feasible to develop vocational training programs with common subjects. This approach can promote the harmonization of

competencies, potentially facilitating the issuance of a European certificate for professionals in the explosives sector. Such initiatives would foster increased mobility across Europe. Today, Information and Communication Technology (ICT) tools, such as computers and video conferencing facilities, enable the utilization of e-learning and blended learning (b-learning) systems, as well as workplace training, for specific vocational areas. Universities and vocational schools can contribute by developing courses that leverage these technologies, while companies should prioritize methods that emphasize experiential learning. Best practices and safety procedures for using explosives in civilian and military activities are established in several countries, providing valuable resources for training and skill development. In conclusion, even though numerous obstacles remain, such as national regulations and language barriers, achieving convergence of education and training practices and the recognition of qualifications and competencies across Europe is feasible. By leveraging the occupational standards and matrix developed in these projects, a functional framework for validating competencies and qualifications can be established. This framework should offer a range of suitable qualifications with sufficient flexibility to accommodate diverse needs and contexts. This flexibility should enable individuals to choose from a variety of modules offered in different countries, empowering them to obtain a blasting qualification recognized across borders and within various subsectors. However, assessing individuals' knowledge, regardless of how they acquired their skills, remains a significant challenge in certifying competencies and promoting mobility within the explosives sector.

*Keywords: competencies, Europe, explosives sector, mobility, qualification, vocational training.*

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## ETHICAL IMPLICATIONS IN THE APPLICATION OF AI IN HRM: A SYSTEMATIC LITERATURE REVIEW

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### ABSTRACT

With the proliferation of artificial intelligence (AI) in more and more fields, including human resources management (HRM), ethical issues related to their introduction and implementation have become essential. Previous studies suggested how HRM and AI appear to be much-discussed topics in recent years, in particular, different possible implementations of AI in the field of training, recruitment, and selection have been studied (Kaushal et al., 2023). The scientific community is increasingly focusing on exploring both potential and actual risks associated with the integration of AI in the workplace, recognizing its potential impacts not only on organizational dynamics but also on the individuals associated with it. As a consequence, this escalating debate is gradually resulting in a proliferation of diverse perspectives within the HRM literature (Pereira et al., 2023).

Recently, COVID-19 has also led human resources managers to accelerate the adoption of AI technologies to face the new challenges brought by the pandemic crisis, giving rise to a trend that has grown in recent years. (Priksht et al., 2023).

One of the main challenges that arise, because of the increasingly rapid implementation of AI in HRM practices, concerns the need to identify and address all the various ethical issues related to the topic. For instance, while managers who deal with recruitment want to implement tools that exploit AI as it allows them to hire with greater efficiency and meticulousness, job seekers want to protect their data and information of a more sensitive nature (Figueroa-Armijos et al., 2023). In fact, on October 30, 2023, President Biden issued the Executive Order, the first useful document for the legislative regulation of AI on American soil. In the EU, On February 7, 2024, the AI Act was approved in its final draft by the EU Council and is expected to be finally approved by the EU Parliament in March/April 2024. The one proposed by the European Union is the first-ever legal framework related to AI legal risks and represents an important step globally. In addition, even if the implementation of new AI technologies in HRM does not necessarily mean a decrease in job opportunities for workers, the risk of increased unemployment within those lower value-added jobs cannot be underestimated (Vrontis et al., 2022). As a result, the scientific literature has begun to analyze the issue in increasing depth, from various perspectives, including ethical implications. This has led to the need to implement an SRL that

classifies the various ethical implications related to the implementation of AI in HRM, also in light of the growing worldwide interest in the topic. Thus, the review highlights the multifaceted nature of ethical concerns, including bias and discrimination in AI algorithms, privacy and data protection issues, transparency and accountability in decision-making processes, and the potential impact on job displacement and human autonomy. Various ethical frameworks proposed in the literature are examined, offering guidance for ethical AI development and deployment in HRM contexts. Hence, the present study is based on the following research questions (RQs).

- RQ1: What is the research profile of the previous literature regarding the ethical implications of applying AI in HRM?
- RQ2: What are the existing ethical issues and can they be clustered based on the main research topics?
- RQ3: What are the main existing gaps in the literature and what could be the future research agenda on the ethical issues of AI application in HRM?

Accordingly, this research aims to systematically review the extant literature to offer a detailed guide intended to support and guide the academic debate. Systematic literature review (SLR) proved to be a versatile methodology, used in several high-quality scientific journals to guide future research by looking at past contributions (Danese et al., 2018). In addition, we decided to adopt SLR to learn about the current status of the existing literature, its nature, and extent, in the area of ethical implications in the application of AI in HRM and to highlight the need to conduct SLR (Pereira et al., 2023). Accordingly, we decided to divide the process into four steps: a first step dedicated to planning the review; a second step in which we defined the inclusion and exclusion criteria; a third step in which the data were extracted; and, finally, a fourth step in which the data were executed (Hassan et al., 2023). Initially, we used Scopus to advance the following keyword search and we found 2.524 articles.

"AI" OR "Expert system" OR "Algorithm" OR "Fuzzy logic" OR "neural language programming"  
OR "machine learning" OR "robotics" OR "Fourth Industrial Revolution"

AND

"HRM" OR "Human Resource Management" OR "HR" OR "recruitment" OR "selection"  
OR "training" OR "development" OR "performance management" OR "contract  
management" OR "Job signaling" OR "Person-organization fit" OR "Employee experience"

AND

"Ethical concerns" OR "Transparency" OR "Ethical evaluation" OR "Ethics" OR "Privacy  
concerns" OR "bias" OR "legal concerns"

Then, we set the inclusion and exclusion criteria. We chose to include in our research only papers in English, published by top-ranked journals, published between 2014 and 2023. We limited the subject area to business, management, and accounting, sources to journals, and document type to articles in their final stage. Before manual analysis of the items, the search produced 127 results, following manual analysis our sample produced 61 final results. Then, we conducted bibliometric and content analyses to identify key articles and explore the ethical implications of implementing AI in HRM. Bibliometric analysis is exploited in many fields and subfields of the literature because, coinciding with a technique that places the article as the basic unit of analysis, it allows the analysis of different components of the literature such as keywords, authors, and sources. (Alon et al., 2018). To identify the research clusters, how they evolved, and the trends for future research we have used the Bibliometrix package in the R and VOSviewer software. Subsequently, we advanced a content analysis to distinguish and isolate the most and least developed topics within the literature and highlight future research interests (Bretas and Alon, 2021). As a result of the bibliometric analysis, we observed how the debate about the ethical implications of AI adoption in HRM increased in the past three years. It attracted the attention of scholars from various fields of study such as business management, computer science, social science, and decision science. Most of the authors come from the USA, UK, and China. The USA appears to be among the pioneers of research in the field, while the UK's interest has grown rapidly in the past two years.

From a preliminary assessment, we can identify through the content analysis how the issue of ethical implications in the application of AI in HRM was more often addressed about the ethical perceptions that various stakeholders have toward the introduction of AI technologies in HRM-related practices, rather than from an ethics-centric perspective. In addition, more than one paper highlights the strong need to introduce a regulatory framework both within individual organizations and at the governmental level that would identify which actors are involved in the implementation, introduction, and application of AI technologies in HRM and their respective responsibilities.

In conclusion, this systematic review pursues to deliver both contributions to the theory and implications for practitioners. In the first place, we enriched the literature at the intersection of AI and HRM by shedding light on ethical concerns and guiding academics toward future research opportunities. We highlighted how it is important to delve more deeply into issues related to security, privacy concerns, and labor legislation to promote sustainable HRM (Kraus et al., 2023); and we explored how it appears essential for both research and practice to delve into pathways to minimize the bias associated with implementing AI technologies in HRM (Malik et al., 2022). Finally, this research is intended to expand the understanding of such topics among managers by contributing to creating awareness in dealing with ethical HRM in the digital age.



*Keywords: AI, Artificial Intelligent, Technologies, HRM, Human Resource Management, Recruitment, Ethical Issues, Ethical concerns*

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## THE ADOPTION OF M-COMMERCE AMONG RETAIL SMES

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### ABSTRACT

M-commerce has gained significant interest from businesses globally, including small and medium enterprises (SMEs), owing to its benefits such as enhanced productivity, improved marketing, reduced costs, increased competitiveness and customer satisfaction (Chau *et al.*, 2021; Fahriawan, 2020; Fatoki, 2020; Khaskheli *et al.*, 2017; Li and Wang, 2018; Rana *et al.*, 2019). However, despite the benefits of m-commerce, the adoption of m-commerce among SMEs in developing countries is low (Chau *et al.*, 2021; Fahriawan, 2020; Omonedo, 2016; Salimon *et al.*, 2021). It has been argued that the low adoption rate may be attributed to the intricate process of adopting m-commerce which involves various factors. Drawing on the Technology-Organisation-Environment (TOE) framework, the purpose of this study was to develop a conceptual framework for investigating the factors that influence the adoption of m-commerce among retail SMEs in South Africa. This study followed a mixed methods approach that incorporated both qualitative research (phase 1) and quantitative research (phase 2). Phase 1 of the research involved conducting online focus groups and in-depth interviews. The aim of phase 1 was to identify the factors that influence the adoption of m-commerce, with a specific focus on retail SMEs in South Africa. Phase 2 incorporated self-administered web-based questionnaires and applied structural equation modelling (SEM) as well as multiple regression to assess the validity of the conceptual framework. The findings indicated that perceived benefits, perceived cost, perceived complexity, customer pressure, top management support, organisational innovativeness, government support and global trends have a significant influence on the adoption of m-commerce among retail SMEs in South Africa.

This study enriches the existing body of knowledge by developing a conceptual framework that may provide a better understanding of the adoption of m-commerce among SMEs. This study raises awareness of the factors that influence the adoption of m-commerce which may encourage SMEs to embrace m-commerce and capitalise on its benefits. The conceptual framework may enable SMEs to make well-informed decisions and enhance their marketing strategies. Additionally, this study may serve as a guide to understanding the behaviour of SMEs and the factors that influence their adoption of m-commerce which could offer valuable insights for government in their endeavours to promote the adoption of m-commerce among SMEs.

*Keywords: M-commerce; ICT; adoption; retail; SME; TOE framework*

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# **“DON’T LEAVE ME BEHIND”, CAN UNIVERSITY EDUCATION ENABLE INDIGENOUS PEOPLE TO ENHANCE ECONOMIC CONTRIBUTION?: A STAKEHOLDERS’ PERSPECTIVE**

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## **ABSTRACT**

### **MOTIVATION**

Research on indigenous peoples has studied gaps and differences between indigenous and non-indigenous peoples in education, income, health care, inhabitation (Lamb, Yap & Turk, 2018). However, less attention has focused on what caused the gap and factors responsible for leading to such a gap. The loss from potential contribution from indigenous talents to labour force and thus economic growth could be exponential. Further, little attention focused on if senior management has a role to play and if firms have a key role in linking education to workplace contribution? We expect a higher number of indigenous youths staying in higher education would increase their number of economic contributions. We examine which stakeholders have what role in advancing this potential workforce for economic growth.

Lamb and colleagues (2018) call for further research on understanding and removing barriers to education. We extend to ask, what are the barriers and inhibitors to indigenous peoples for so many years of consistent lagging in achieving higher education? In which form can university play a role to make pivotal changes? How can stakeholders shift their roles to be active and drive this change?

### **DEFINING INDIGENOUS PEOPLE**

The World Bank defines indigenous people as “distinct social and cultural groups that share collective ancestral ties to the lands and natural resources where they live, occupy or from which they have been displaced”. In 2020, there were 476 million indigenous peoples globally (compared to 370 million in 2009, United Nations, 2009), located in 90 countries, making up above 6 percent of the total global population (compared to around 5% in 2009, United Nations, 2009). Unfortunately, they formed around 15 percent of the extreme poor and a third of the world’s poor populations. Further, their life expectancy is twenty years shorter than non-indigenous people worldwide (World Bank, 2020). Since indigenous people live around the globe, even our research questions studies issues in the context of Canada but the findings do have important implications on a global scale. Since it is a community matter; we are taking a stakeholder’s perspective to examine our questions.

In North America, forty percent (40%) of indigenous students with post-secondary certificates live in cities, while 26% stay on-reserve communities and 35% in rural communities (Heritz, 2016). In which way does indigenous peoples' residential location impact their pursuit of higher education? Is this the only reason hindering their years of lagging behind? We do not know? Are there any other reasons to explain why only 10.1% of indigenous people achieve bachelor's degrees or higher education in Canada (Statistics Canada, 2017)? (Table 1). Canada is a multicultural society, and White, Japanese, Chinese and South Asian peoples have all achieved advanced level of education in Canada (Statistic Canada, 2011), but indigenous peoples are still lagging way behind? (Table 1). We wonder why? Differences between two surveys on indigenous peoples (Table 1) show positive changes for over five years but still reveal the same lagging outcomes: an improvement in numbers and upward trend of – the higher the educational level, the higher the income will be for indigenous peoples. This implies income received either from new venture start-ups or working in firms, either way increased their income and contribute to economic growth. The fact is of course true across society but why are indigenous peoples not yet taking full advantage of Canadian education when the world is flocking to Canada for its excellent education? Are they interested in working? Since education has been found to affect income and career progression, thus economic growth of the society (Mai, 2011; Dwyer, 2003), understanding underlying reasons, inhibitors and challenges will enable educators and policy makers to find ways to positively change this ratio.

## **RESEARCH IN INDIGENOUS PEOPLE**

Indigenous peoples have a distinctively valuable culture that Canada and the world celebrate and value. We underscore the deep economic potential of indigenous advancement to turn what perceived to be liability of society into highly productive and sought-after resources of our society. Most research on indigenous people (Crawley and Sinclair, 2003; Lertzman and Vredenburg, 2005; Murphy and Arenus, 2011) has identified culture, ethical issues and cross-cultural frameworks but stopped short of reaching the underlying challenges of why society is constantly – leaving indigenous people behind, even after many years of “attempts” and “policy” to bring them into the mainstream of society. It is still unclear why there exists lack of accountability, lack of engagement of indigenous people in policy making process, lack of general recognition and awareness of indigenous cultural and practices (Murphy and Arenus, 2011), lack of support in workplace and training (Crawley and Sinclair, 2003; Dwyer, 2003), and why indigenous people lack self-identity? (Croce, 2017).

## **THEORETICAL PERSPECTIVE**

Public policies and funding support for indigenous peoples have been formulated and allocated since 1920 in Canada, if not longer (Heritz, 2016). Nonetheless, positive impacts are far from satisfactory (Truth and Reconciliation Commission of Canada, 2015). Research examining municipal-aboriginal advisory committees in four Canadian cities from 1999-2014 found many issues, including education, still exist, and inhibitors include low representation of indigenous peoples in all levels of government, including provincial, local and communities (Heritz, 2016). What are the inhibitors that are so stubborn even after more than one hundred years nothing much has improved in 2024?

## **EXPECTED FINDINGS**

Indeed, indigenous peoples are still suffering from “alienation ... and lack of role models ...” (Royal Commission on Aboriginal Peoples, 1996, p 527). Since the Indian Act in 1920, indigenous engagement in society has not yet reached optimal levels. Organization studies on indigenous peoples are also relatively few in number (Croce, 2017). From the stakeholder’s perspective and taking a system view, we posit the higher the coordination and collaboration amongst stakeholders such as government, communities, educational institutions and indigenous communities, the faster and more effective the indigenous engagement in university education. We made this assertion by extending the stakeholders perspective (Laplume et al., 2008) from firm level stakeholders (management, employees, suppliers, shareholders’ etc.) to societal level (government, indigenous, non-indigenous, educational institutions etc.). We argue that only when all actors, not some, but all (that means including indigenous peoples) have high level of equal participation, will the society as a whole yield distinctive resources and dynamic capabilities, to achieve greater economic growth for all. Thus, university educators may have a key role to play as one of the stakeholders at the beginning of the “chain of stakeholders”.

## **CONTRIBUTIONS AND ORIGINALITY**

We emphasise the importance of the system approach where all stakeholders in society must engage to collaborate and coordinate to include all members of the society. It is clear when one or more stakeholders are not participating in contribution to growth, they become a liability to the society. But all stakeholders must pull each other up when time is tough for certain members. Indigenous people were not in an advantageous position as they were taken advantage of not only in the past but also in the present. That is not fair. In essence, stakeholders in society were not given a fair opportunity for indigenous people to play a part. It's time for change. We argue from the system's

perspective that the higher the level of collaboration from all stakeholders in society to connect indigenous youth to education and to the workplace, the bigger the overlap and thus higher potential to achieve success bringing economic growth from indigenous youth participating in education, work and economic growth.

Therefore, our research is among the very few examining the antecedents of indigenous higher education status or the lack of it and trace the cause to lack of stakeholders' participation in bringing inclusivity instead of only blaming on indigenous people's past and tradition.

*Keywords: Indigenous peoples, indigenous policy, public policy, indigenous studies, university education, stakeholder's perspective*

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## APPENDIX

Table 1: Income, Education levels 2012 vs 2017. Source: Aboriginal Peoples Survey, 2012, 2017.

Statistics Canada

|                      | 2017       | 2017      | 2017      | 2017      | 2017      | 2017       | 2012       | 2012      | 2012      | 2012      | 2012      | 2012       |
|----------------------|------------|-----------|-----------|-----------|-----------|------------|------------|-----------|-----------|-----------|-----------|------------|
|                      | Grade 8 or | Some secc | Secondary | Some post | Postsecon | Bach. degr | Grade 8 or | Some secc | Secondary | Some post | Postsecon | Bach. degr |
| Less than \$5000     | 17.1       | 14        | 11.7      | 11        | 5.6       | 3.5        | 13.3       | 13.8      | 11.7      | 12.8      | 5.8       | 4          |
| \$5000 to \$9,999    | 12.5       | 8.9       | 8.8       | 11.6      | 5.2       | 4          | 9.7        | 8         | 8.8       | 10.7      | 5.5       | 4          |
| \$10,000 to \$19,999 | 17.3       | 17.9      | 15        | 19.5      | 10.8      | 6.6        | 24.7       | 18.6      | 16.8      | 17.6      | 10.6      | 7.8        |
| \$20,000 to \$29,999 | 16.4       | 18.4      | 15.3      | 13.2      | 11.4      | 7.6        | 12.7       | 17.6      | 14.9      | 14.2      | 12.6      | 9.2        |
| \$30,000 to \$39,999 | 12.3       | 12.7      | 12.6      | 10.7      | 13.2      | 7.6        | 15.7       | 16.3      | 13.6      | 11.8      | 16.8      | 8.4        |
| \$40,000 to \$49,999 | 5.7        | 6.9       | 9.3       | 9.6       | 12.4      | 8.4        | 6.1        | 6         | 10.6      | 9.7       | 12.4      | 8.5        |
| \$50,000 to \$69,999 | 9.3        | 11.3      | 14.2      | 11        | 17.5      | 18.6       | 17.8       | 19.7      | 23.6      | 23.3      | 36.3      | 58.1       |
| \$70,000 and over    | 9.4        | 9.9       | 13.2      | 13.2      | 23.8      | 43.6       |            |           |           |           |           |            |
| Total                | 100        | 100       | 100       | 100       | 100       | 100        |            |           |           |           |           |            |
|                      | 2017       | 2017      | 2017      | 2017      | 2017      | 2017       | 2012       | 2012      | 2012      | 2012      | 2012      | 2012       |



## **TO DETECT OR PREDICT ACCOUNTING FRAUD? AN AGENCY THEORY AND MACHINE LEARNING METHOD PERSPECTIVE**

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### **ABSTRACT**

#### **MOTIVATION**

Do we want to detect accounting fraud? Then the event has to occur first, recent or historical. The problem is detection process is costly, time consuming and accuracy rate uncertain. Regardless of model deployed, extant accounting literature is still inconsistent in ideal forensic model, either analysing with traditional, ratio based or raw data-based methods (Kotsiantis, Koumanakos, Tzelepis, and Tampakas, 2006). Further, when detection is accurately achieved, damages may have already been felt by individuals, corporations, government and even society at large. Sometimes damages are recoverable, but often they are detrimental and irrecoverable. Is that what we aim for? Just to detect fraud? Practitioners and scholars alike are in search of optimal auditing strategy (Dionne, Giuliano and Picard, 2009). Thus, developing a model to accurately predicting the probability of fraud (Owens et al., 2022) in advance to prevent, instead of detecting after the fact.

#### **THEORY**

It is well documented in agency theory literature that monitoring system preventing and predicting manipulative behavior is possible to achieving and safeguarding owners' interest. Clearly, owners, individual or institutional, would prefer prediction even at the expense of increasing cost of monitoring. Research undertaken from agency theory perspective found governance and behaviours between the CEO and the board carry both positively and negatively reciprocal behaviors (Bosse and Phillips, 2016). When negative, owners suffer, often due to lacking information symmetry avail by executives' manipulative control of operating information flow and false accounting information. As such, imbalance of full and accurate accounting information renders owners disadvantaged, deceived and misled, while accounting fraud committed.

What can be done for owners? In recent accounting and machine learning literature, identifying factors leading to fraudulent activities and predicting fraud using machine learning method are on the rise. For example, some researchers are using stacking variant method and found it to achieve better performance than any examined simple and ensemble method (Kotsiantis, Koumanakos, Tzelepis, and Tampakas, 2006). Where Saleh et al., (2021) draw data from Jordanian

industrial owners and applying Altman's z-score and Dechow f-score to analysing with multiple regression procedure. They found clear proof of false financial statements and confirmed the validity fraud detection models chosen. Similar study conducted in Indonesia by Arum and colleagues (2023) using secondary data collected from annual reports of firms under special monitoring listed on the Indonesia Stock Exchange of 2020–2021. The financial statement fraud was measured using the Z-Score and F-Score models. Their results showed that when using the Z-score, only the board size has a negative effect on financial statement fraud.

Meanwhile, Baranes and Palas, (2019) undertake Support Vector Machines (SVM) technique and financial data extracted from the Securities Exchange Commission (SEC), they found merit with machine learning method and achieved better prediction accuracy rate. Extant literature guides our curiosity to our research question; what is the optimal machine learning method for predicting accounting fraud with highest accuracy?

## **METHOD**

Our research aims to employ ensemble methods as they are considered the optimal method for many machine-learning challenges. Sagi and Rokac (2018) found that these “methods improve the predictive performance of a single model by training multiple models and combining their predictions” (page 1). In terms of models, we choose cash flow-based and earnings-based models. We adopt Lee, Ingram, & Howard (1999)’s finding and they have drawn from accrual measurement theory and had long established the effectiveness of using discrepancies between earnings and operating cash flow to derive and test as indicators for testing financial statement fraud. Their research demonstrated that the earnings-operating cash flow relation provides key information for identifying financial statement fraud. Thus, we undertake this approach as basis to establish an ensemble, a set of six commonly used forensic models used in conjunction, three being cash flow focused (Altman’s Z score, Ohlson’s O score and Cash Flow return on Investment (CFROI)) and three being earnings focused (Beneish M score, Dechow F score and Modified Jones Model) for our research.

## **RESULTS**

We split our data into training and test dataset using completely different sample data from Securities and Exchange Commission (SEC) of USA. The result of our model is consistent with various previous studies that machine learning models consistently outperform baseline model, which in our case is logistic regression. We used logistic regression as baseline model and decision tree, random forest and XG Boost (Extreme Gradient Boosting) as machine learning models. While logistic

regression provides 36% accuracy, machine learning models such as random forest provides 57% accuracy and decision tree exhibits a 60% accuracy. However, the top performing model was XG Boost which exhibited 75% fraud prediction accuracy.

## CONTRIBUTIONS

The results of our study add to the body of literature in agency theory and machine learning method. We extend by linking AI to agency theory for finding optimal ways to mitigate information gap between owners and agents. In the past, agents are in the know and owners are not. Information asymmetry has always been the key in agency theory perspective and scholars making argument in terms of reward systems, organizational structure and strategy to flatten the knowledge curve between owners and agents about the financial health and condition of the firm. Machine learning method has changed the shape of the curve. Moreover, information asymmetry has not only impacted interest of owners but also investors, shareholders, analysts, regulators and business practitioners. They all share paramount concern regarding the veracity of financial statements, yet inconsistency in extant research and lack of an unbiased model that can detect and predict financial reporting fraud means there is still a void. Enabled by machine learning method, our ensemble model addressed this void.

We hope our model empower businesses via early fraud prediction, to make better investment selection, and to enhance regulatory monitoring and may be offering greater behavioral control for firms to manage in-house accountants and external auditors. Finally, our machine learning (ML) based ensemble model provides an unbiased, analytical tool to the owners to better protect their business interest by disrupting information monopoly from their agents.

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## **BUILDING BRIDGES: TRUST, WISDOM, AND THE PATH TO SOUND DECISION MAKING IN BUSINESS**

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### **ABSTRACT**

With global trust in decline, and technology outpacing regulation, business leaders face increased pressure to bridge gaps left by governments. Beyond prioritizing shareholder returns, leaders must balance the welfare of employees, customers, and the broader community, while also influencing societal standards. In this climate of uncertainty, wisdom emerges as a promising avenue. This study delves into the significance of fostering wise reasoning within business contexts, shedding light on the essential roles played by both trust and wisdom in guiding leadership actions. This study explores the value of enhancing wise decision-making in business, revealing the pivotal role of trust and wisdom.

Trust is a critical social currency, and arguably one of the most fundamental attributes of a leader. The traditional leadership narrative focuses on vision and strategy, but Frei and Morriss (2023) argue that leadership “really isn’t about you,” it’s about empowering others and creating conditions for employees to realize their potential. In the words of John F. Kennedy, “a rising tide lifts all boats,” underscoring the common good benefits of shared success. Central to this dynamic is the cultivation of trust, a currency earned through the consistent demonstration of authenticity, logic, and empathy (Frei & Morriss, 2023; McLain & Pendell, 2023). When leaders authentically engage with their teams, demonstrate genuine concern, rational decision-making, and an understanding of diverse perspectives, they foster an atmosphere of trust and confidence. Trust, in essence, acts as the bridge that connects leaders with their teams, enabling seamless collaboration and unwavering support.

Unfortunately, the world is experiencing a trust crisis exacerbated by divisive politics, the proliferation of fake news, and unregulated technological advancements, leading to instances of incompetence and ethical lapses among decision-makers (Edelman, 2022, 2023; Maxwell, 2019; Sternberg, 2021). In response to the pressing need for sound judgment and moral reasoning in leadership, psychologists have sought to define and understand wisdom (Grossmann, Weststrate, Ardelt, et al., 2020; Sternberg, 2019; Sternberg, 2021). Now, more than ever, it is on the shoulders of business leaders to make decisions that benefit the common good of society for the health and welfare of all stakeholders (e.g., shareholders, employees, customers). Drawing on historical theories of wisdom introduced by Greek philosophers and further built upon by psychologists and economists, practical wisdom can positively impact wise decision-making in business leadership (Sternberg et al., 2019). The demand for wise leaders who can navigate complex, morally ambiguous challenges during uncertain times and restore

trust is a worldwide imperative. There is an urgent need for a resurgence in understanding wisdom in corporate and organizational leadership to address the growing complexities and uncertainties in the global environment and, by extension, foster trust in employees, consumers, and other stakeholders.

This concurrent nested mixed methods study delved into the exploration of wise reasoning within the context of a complex business problem. In the quantitative portion, the authors' employed a quasi-experimental design using a wise reasoning boost exercise (a noncoercive intervention that fosters competences to make better decisions) that encouraged participants to propose a wise solution. The study involved 325 U.S. employed adults ages 24 to 84 who first took the Self-Assessed Wisdom Scale (SAWS) (Webster, 2003) to assess wisdom as a character trait, and later the Situated Wise Reasoning Scale (SWIS) (Brienza et al., 2018) at the end of the study to assess wise reasoning within the context of a complex business problem. In between the assessments, the participants were presented a complex business problem related to introducing a neurotechnology product designed to measure employee fatigue in the workplace. Participants were randomly assigned to either the wise reasoning exercise, or active control exercise probing them to think about the introduction of this technology in the workplace through open-ended questions as part of the nested qualitative portion of the study. Participants were then asked about their confidence and trust in their proposed solutions. These wise reasoning exercise questions explored the domains of intellectual humility, perspective taking, uncertainty and balancing the interests of all stakeholders thus offering the opportunity for multiple methods to develop a comprehensive understanding of wise reasoning processes to further enhance the validity and credibility of the results.

Results revealed that wisdom, conceptualized as a character trait and measured by SAWS, emerged as the strongest predictor of wise reasoning in the face of a complex business challenge, as assessed by SWIS. Specifically, SAWS subscales life experiences, reflection habits, and openness to new experiences emerged as robust predictors, explaining 21% of the variance in wise reasoning. The inclusion of trust in the regression model contributed to a 24% percent variance in SWIS. The provision of wise reasoning boosts in the form of open-ended questions seemed not to have significant influence on wise reasoning scores. However, the qualitative data indicated consistent suspicions of how top leadership could potentially misuse the workplace technology igniting fear that it could discriminate front-line workers. The findings underscore the nuanced interplay of trust and wisdom in fostering wise reasoning within the complex landscape of decision-making.

The future has always been uncertain. The key difference today is there has been an erosion of global trust in government and media creating a climate of volatility, uncertainty, complexity, and ambiguity (VUCA), (Edelman, 2023; Ko & Rea, 2016). Psychologists fear developing intelligence (IQ) and domain-specific knowledge has been overvalued at the expense of wisdom (Sternberg, 2019). Intelligence and

domain-specific expertise are undeniably important, but do not guarantee societal improvements (Sternberg, 2019); intelligence can be leveraged toward nefarious ends as much as noble ones. Wisdom encompasses morally grounded excellence in cognitive processing by applying meta-cognitive reasoning to problem solving with a foundational consideration for a common good outcome (Grossmann, Weststrate, Ardelt, et al., 2020). Consider the rapid development of AI ahead of regulations; intelligence is useful in answering “how can AI be developed,” whereas wisdom flips the coin and asks “when, and under what circumstances should it be used?”

The results of this research have some immediate practical applications for business leaders to build trust and foster wiser reasoning within the workplace, specifically the role that openness and reflecting on past experiences can positively impact wiser reasoning. Business leaders may wish to consider practices that encourage openness to new ideas, opinions, controversies, and diverse cultural perspectives. This could include brainstorming sessions, innovation labs, and providing opportunities for continuous learning that broadens individual perspectives. Business leaders could also encourage post-mortems to learn from self and others’ experiences including lessons learned, after-action reviews, and mentorship programs where both leaders and employees are encouraged to reflect and learn from personal and others’ experiences. Creating a culture where openness, learning from past experiences, and reflection are encouraged.

The initial intent of this research was to boost wiser reasoning by providing a short-term intervention that probed one consider a complex problem with wise reasoning strategies. The wise reasoning boosts did not make a significant difference. What this research suggests is that the ability to reason wisely is related to one’s openness, reflection habits, and learning from past experiences, and it is these habits that need to be fostered to improve wiser reasoning.

This research contributes to the academic understanding of wisdom and trust in business contexts, and provides actionable insights for enhancing managerial practices. This study empirically validates the relationship between wisdom traits as measured by SAWS (specifically openness, reflection and experiences) and wise reasoning as measured by SWIS. Furthermore this study integrates these variables with trust in leadership to form a cohesive framework for better decision-making. Methodologically, the mixed methods design of this research offers a robust approach to understanding complex phenomena, while the context-specific application within a contemporary business problem bridges the gap between theory and practice. For managerial practices, the findings suggest that fostering wisdom traits and building organizational trust can enhance wise reasoning among leaders. Practical steps include promoting intellectual humility, reflective practices, and transparent communication in learning from past experiences are crucial in today’s rapidly changing business environment. By emphasizing these traits and integrating ethical guidelines, leaders can

improve decision-making processes, ultimately benefiting all stakeholders, their organization, and society as a whole.

*Keywords: Trust, Wisdom, Decision-Making, Wise-Reasoning*

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## IT TAKES TWO TO TANGO: UNDERSTANDING HUMAN-AI INTERACTION IN THE WORKPLACE

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### ABSTRACT

Artificial Intelligence (AI) transforms the modern workplace that leads to significant changes in the ways businesses operate and employees carry out their roles and responsibilities. Companies that implement AI gain substantial benefits, such as heightened productivity and creation of new job opportunities. AI technologies excel in automating repetitive tasks, which boosts efficiency and allows employees to engage more with complex, strategic activities, consequently enhancing job satisfaction and performance (Kumar et al., 2024). Moreover, AI drives innovations and leads to the creation of new job roles and responsibilities focused on its development, implementation and continuous management, consequently contributing to the development of the job markets (C.-H. Lu, 2022). At the same time, AI enhances the workplace by providing predictive analytics and insights that enable informed and accurate decision-making (Kumar et al., 2024). Tools like AI-enabled chatbots improve employee engagement, encourage trustful work environment and have a potential to contribute to the stress and burnout reduction (Dutta et al., 2023; Malik et al., 2022). In customer service, AI manages routine inquiries, freeing up employees to handle more complex tasks and improve sales conversions (De Keyser & Kunz, 2022). Importantly, AI is increasingly viewed as a complementary tool that fosters a symbiotic relationship between human workers and technological systems (Monod et al., 2023).

However, the integration of AI also presents several challenges. There are still concerns about AI-induced job transformations and displacement that could escalate inequality and decrease the labor share, especially as AI takes over routinized tasks traditionally performed by humans (Wang et al., 2023). The introduction of AI may also undermine the social and cultural capital within organizations, leading to decreased acceptance and low participation in AI training programs (Monod et al., 2023). Furthermore, AI could diminish the significance of human input, affecting employee satisfaction and altering the nature of work (Wang et al., 2023). Resistance to new systems and the transformation of work processes pose additional challenges, as does the need for employees to adapt to new workflows (Lebovitz et al., 2022).

Despite the significant potential opportunities and threats that AI implementation introduces to the workplace, empirical research on its effects remains sparse (Dutta et al., 2023). Existing studies have explored the impact of AI on the demand for skilled labor and workplace organization, and indicated substantial transformations in work environments (Bresnahan et al., 2002). Furthermore, the studies of

employees' perceptions regarding future workplaces equipped with AI, robotics, and algorithms indicated diverse expectations and concerns (Brougham & Haar, 2018). Similarly, research has focused on AI's influence on learning, career paths, and wage distribution, leading to the potential reshaping of career trajectories and income levels (Monod et al., 2023). In the realm of Human Resource Management (HRM) studies, perceptions and utilization of AI continue to evolve. For instance, Dutta et al. (2023) illustrate a growing trend in adoption of AI-driven tools such as chatbots in HR functions that enhance the efficiency of providing personalized employee experiences and positively influence employee attitudes by fostering trust and engagement, thus setting new standards for HR practices (Dutta et al., 2023). However, there is a noticeable scarcity of empirical research on the behavioral and attitudinal changes among employees resulting from AI implementation. Moreover, there is a need for further research on how AI may alter perceptions of work and its significance across various employee demographics and experience levels (Wang et al., 2023).

This research gap leads to the critical questions of this study: How do humans actually use AI in their daily work routines, and how do they collaborate with AI to achieve their work objectives? To address these questions, this study is designed as a phenomenology that employs interviews to explore the lived experiences of individuals in various positions and industries. Through these interviews, the study aims to explain how diverse AI-driven applications and technologies are integrated into daily tasks and what are the use patterns in this human-AI collaboration. The study is an early work-in-progress, but it aims to contribute in several ways. First, using the phenomenological approach, it aims to contribute to the understanding of the integration of AI technologies into the daily work activities. Besides, it will contribute to the understanding of the human-AI interaction by identification of human behavioral patterns.

*Keywords: Artificial Intelligence, Innovation, HRM practices, modern workplace*

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## HOW CAN SCALES HELP MANAGERS IN DECISION-MAKING?

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### ABSTRACT

The goal of this article is to introduce new approaches to the use of Exploratory Data Analysis (EDA) tools. It presents some original possibilities for working with data from market research and customer preference surveys. In particular, it introduces data analysis of information that has been obtained from customer or manager responses in the form of scaled responses. It presents new graphical techniques that make it much easier for managers to navigate such data. These graphical methods include the scaled axis, the semantic spiral, and the semantic tree. Our approach builds on the concept of Likert scaling. It introduces into data analysis not only an economic but also a psychological perspective on the behaviour and motivations of economic agents. The authors construct a differentiation ratio coefficient to describe differences in customer attitudes. Semantic analysis and the differentiation ratio coefficient allow managers to quickly orient themselves in customer behaviour. The text provides lucid graphs and simple calculations that can facilitate managers' decision-making processes.

*Keywords: data support to management, scales, semantic characteristics, ordinal variable variability, differentiation ratio coefficient.*

## **DETERMINING ATTRIBUTES IN THE SMARTPHONE PURCHASE DECISION: ANALYSIS OF CONSUMERS FROM THE X, Y AND Z GENERATIONS**

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### **ABSTRACT**

One of the reasons for the growing development of smartphones is the integration of these high-engagement electronic devices and wireless internet, which has resulted in a rich flow of information and changed the way people communicate and their lifestyles. Public demand for information is increasing, suggesting that cell phones are not passively used but have become a new interactive model of transmission and communication (Lee & Chen, 2016). Smartphones are considered products of high involvement by consumers, so much so that, virtually everywhere, whether on public transport, at dinner with friends, in bed, or even in the workplace, consumers have been using them with intensity. Electronic devices are used to make calls or send messages, listen to music, watch movies and series, or view recent content posted on social media (Melumad & Pham, 2020).

Smartphones allow consumers to acquire information from other sources while shopping at traditional stores. Therefore, organizations need to understand the types of information consumers look for with their smartphones and devise appropriate strategies (Bhatnagar & Papatla, 2019). Perrin (2017) conducted research and verified the need for consumers to constantly use their smartphone, stating that their device is like something they “could not live without.” In addition, consumers get emotional benefits from their smartphones – particularly feelings of psychological comfort and, if necessary, natural stress relief (Melumad & Pham, 2020).

This study is justified based on the following notes: the existence of possible variations in the way and intensity in which each generational group uses technology (Magsamen-Conrad, Upadhyaya, Joa, & Dowd, 2015); different attributes may be affecting the use and involvement of consumers with technology, and one of these factors is age, and individuals can be divided according to age into generational cohorts (Calvo-Porrall & Pesqueira-Sanchez, 2019); each generation has had an impact on the overall evolution of the world of business and industries and has different shopping habits (Hoxha & Zeqiraj, 2019), and there is still a gap in research on consumer motivations to use and engage with technologies (Calvo-Porrall & Pesqueira-Sanchez, 2019).

It has been common practice in global marketing to group consumer segments into target market categories. One of the more widely used is that of lumping generational cohorts into a group, and assigning traits to that group (Zwanka and Buff, 2021). Given this, the theoretical contribution proposed is to present the determining attributes in the decision to purchase smartphones for different generations, compare them and, above all, relate them to the respective generations. Smartphones are considered high involvement products, and for that, the comparison of attributes and generations theoretically advances in the analysis of these constructs.

Given this context, the present work answers the following question: What is the difference in prioritizing the determinant attributes of purchase in the decision process of generations X, Y, and Z? Thus, the objective is to comparatively analyze the prioritization of attributes in smartphone purchase decisions of individuals belonging to the X, Y, and Z generations. The theoretical contribution of this research is mainly due to the validation of the instrument for smartphone purchase decisions and the analysis comparison of attributes between different generational cohorts.

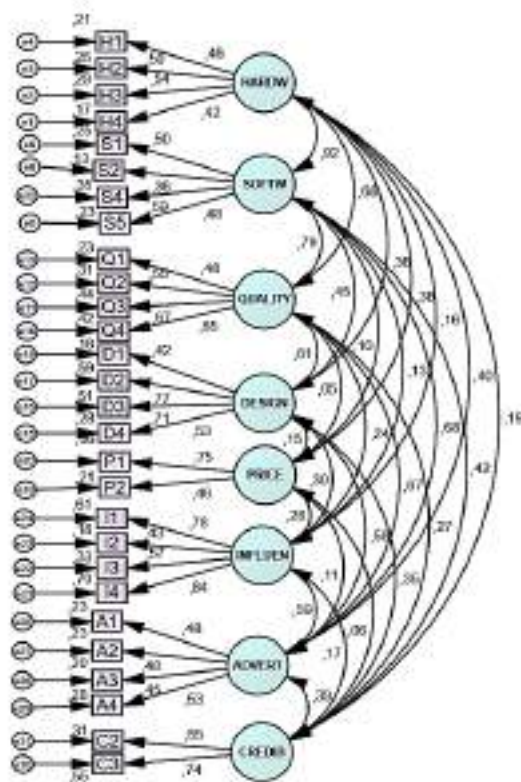


Figure 1. Final model with adjustments.

This research is characterized as quantitative and descriptive, with data collection through a survey. The sample used in this study was non-probabilistic for convenience. The selection sought smartphone consumers who have used the brand for over three years and have purchased the last smartphone no more than six months ago. The total sample of this research was 1,182 respondents. Statistical analysis was performed using IBM SPSS software, v. 23®, and AMOS, of which descriptive statistics and factor analysis modules were used. The instrument consisted of 32 questions (in addition to consumer profile questions), and the statements should be answered using 5-point Likert-type scales. For data analysis, the Confirmatory Factor Analysis (CFA) technique was used to test the reliability and validity of the constructs and the Structural Equation Modeling (SEM). The instrument questions that arise from the theory and the qualitative research carried out are presented in the research method.

Discriminant validity was statistically significant in all comparisons (Sig=0.000). Thus, this criterion confirmed the discriminant validity of the 28 relationships studied in this research. With these results, the analysis was performed. The structural equation modeling, as shown in Figure 1.

The determining attributes used by consumers to purchase smartphones show the complexity of this process and the diversity of influencing factors in acquiring high-involvement products. Consumers from generations X, Y, and Z are different from each other. From building the mental model from evaluating alternatives to the purchase decision, there is some time to consider acquiring these devices, even if the objective will be just for entertainment or work tool functionality. However, smartphones are part of the lives of consumers of all generations.

The main results validate the construct decision to purchase smartphones for different generations, analyzing validity and reliability indices, as well as a detailed description of the differences in the use of attributes by generations X, Y, and Z. The comparative analysis presents exciting results. It demonstrated the use with greater intensity and frequency of the attributes measured by Generation X, followed by Generation Y and then by Generation Z consumers. The purposes for using electronic devices are also divergent, as recommended in the literature of the theme. It is noticed that Generation X consumers are more aware than other generations, and the purchase decision process is more planned, organized, and safe.

The theoretical contribution of this research is the validation of the instrument for the decision to purchase smartphones. This research validates the relationships between determining attributes from the consumer's perception and a gap not yet filled in the literature. Data analysis by generational cuts

also contributes to the existing theory on consumer behavior since most studies on the subject cover only a segment of consumers.

Simulating a smartphone purchase decision process by Generation Z consumers, what would be the determining and priority attributes of this decision among different generational cohorts? In detail, this question had not yet been answered in the literature, which is the article's main contribution. Studying Generation X, Y, and Z consumers who were born into the world of technology and remain connected at all times is a significant contribution. On the other hand, no studies analyzed the determinant attributes of the acquisition of smartphones together, only analyzing them in isolation. The validation proposal of this instrument is presented, contemplating a set of determinant attributes identified from the field. This research contributes theoretically by analyzing the eight attributes considered a determinant for generations X, Y, and Z consumers. The managerial implications of this research are related to the difference in the purchasing profile of consumers between generations. In this way, marketing managers will be able to analyze the determining attributes by generation. From this, propose marketing strategies that meet the needs of consumers in a personalized way. For example, understanding and analyzing these attributes by the companies may present superior sales volume and customer satisfaction.

New comparative studies between generations and other types of electronic equipment are recommended. At the same time, comparing the results of this research with consumers from other countries can contribute to consumer behavior literature, taking into account the cultural and social differences between emerging and developed countries. Finally, new methodological approaches are needed to clarify consumer behavior, such as the Fuzzy Method, Comparative Qualitative Analysis (QCA), and even Interactive Qualitative Analysis (IQA).

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## THE RELATIONSHIP BETWEEN CORPORATE SOCIAL RESPONSIBILITY AND CORPORATE FINANCIAL PERFORMANCE: THE MODERATING ROLE OF CEO GENDER

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### ABSTRACT

As companies pursue sustainable development, people increasingly realise the importance of Corporate Social Responsibility (CSR). Research on the relationship between CSR and Corporate Financial Performance (CFP) has proliferated. The research on CSR has gradually developed a system in North America. However, as the research goes more profound, numbers of scholars realise that the conclusions of such research are inconsistent. At the same time, the relationship may be affected by other factors. Therefore, this paper aims to study the relationship between CSR and CFP in S&P 500 (Standard & Poor's 500). At the same time, the chief executive officer (CEO) gender is introduced as a moderating variable to examine the above relationship.

This study selects S&P 500 companies from 2010-2018 as a sample through Bloomberg's database. It empirically analyses the correlation between CSR and CFP and the moderating effect of CEO's gender using the regression and moderating effect models. This study adopts the ESG disclosure score to measure CSR and CFP indicators from accounting and market perspectives. The results indicate that it is vital for S&P 500 firms to be socially responsible, and the CEO gender has a moderating effect between CSR and CFP. Specifically, both perspectives of ESG disclosure scores and CFP show significant positive correlations, suggesting that the CSR of S&P 500 firms again has a significant positive impact on CFP. In addition, the moderating effect of CEO gender shows a significant negative correlation. It demonstrates that female CEOs are inhibitory in studying the relationship between CSR and CFP.

*Keywords: Corporate Social Responsibility; Corporate Financial Performance; ESG Disclosure Score; S&P 500; CEO Gender.*

## **SOCIAL ENTERPRISE MARKETING AND ARTIFICIAL INTELLIGENCE: FROM THE STATE OF THE ART TO THE FUTURE TRAJECTORIES**

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### **ABSTRACT**

The scope of the article is to analyse the existing marketing literature on social enterprises (SEs) and artificial intelligences (AIs) by a systematic literature review. Some scholars retain that marketing as social marketing can be a powerful “tool” for SEs (Madill & Ziegler, 2012). Bloom (2009) and Jenner (2016) retain that SEs really need marketing activities to improve their business performance, stakeholders’ interactions and engagement. Srivetbodee et al. (2017) declare that SEs use marketing activities to create value for their community and get their mission more attractive for them (Mallin and Finkle, 2007). This is also supported by other scholars who believe that marketing skills and activities can “improve the effectiveness, efficiency and bottom line of SEs through identification of opportunity, diffusing an innovative solution and communication of benefits” (Bandyopadhyay and Ray, 2020; p.122; see also Chung et al., 2016; Glaveli and Geormas, 2018; Liu and Ko, 2012; Ma et al., 2012; Miles et al., 2014). In this vein, the social enterprise marketing is intended as the marketing activities defined by SEs, to meet their stakeholders, such as employees, volunteers and donors for sharing their mission, and customers with their offer (Bandyopadhyay & Ray, 2020).

However, SEs have low marketing skills due to resource limits and stakeholders’ expectations (Bandyopadhyay & Ray, 2020). It has been noticed that they do not consciously develop a social marketing campaign (Andreasen, 2002). As Andreasen stated, “social marketing is, at base, a brand of individual behavior change.” And so, the question that has emerged: *how SEs can be adjusted and driven by such change?* The need of full revolution come also from the digital transformation which has triggered the extensive use of new technologies like AIs (Chen et al., 2022). In this particular scenario, scholars have studied the use of AIs in SEs which has resulted as a “collection of social goods and services, marketing studies and promotion of social goods and services” (Popkova & Sergi, 2020). The application of AIs is predominantly relevant that it has been started to be taught in universities (Chen et al., 2022). AIs are still operating as a support to human skills which be empowered but not be replaced (Del Giudice et al., 2022; Del Giudice et al., 2023, Iaia et al., 2024).

Therefore, we aim to review past and current studies on how SEs have improved their social marketing skills and activities using AIs. The aim of this research will be achieved using the 'antecedents-phenomenon-consequences' framework (Narayanan, Zane and Kemmerer, 2011; Pisani and Ricart, 2016). We will conduct a systematic literature review on these topics in order to provide a deeper and complete understanding through: the identification and review of the previous research in this area, the elaboration of a theoretical framework that shows the most critical connections between social enterprises and artificial intelligence marketing, setting the future research path, based on the findings, unanswered questions, and knowledge gaps identified, for academics, as well as practical, political and social recommendations for practitioners, and policy makers.

Moving from others systematic literature reviews, we will conduct our analysis and address the research question following a proper protocol (Denyer and Tranfield, 2009; Gaur and Kumar, 2018; Fisch and Block, 2018). The research will be conducted using EBSCO Host Business Source Premier, which provides the broadest coverage in the business field (Kranzbühler et al., 2018). Articles will be selected from peer-reviewed journals ranked 3, 4 or 4\* in the ABS 2021 ranking list to ensure high quality results (Christofi et al., 2021). Our analysis will focus on full-length articles, excluding book reviews, commentaries, editorials, conference proceedings, and responses to maintain the depth and rigour of our review.

The keyword formula elaborated to be used in the EBSCO database (titles, abstracts, and keywords provided by authors) (Christofi *et al.*, 2019) relates to previous systematic literature reviews on artificial intelligence (Glikson and Woolley, 2020; Mustak et al., 2021; Mariani et al., 2023) and social enterprises' marketing (Bandyopadhyay and Ray, 2020; Ali et al., 2023), and it consists in the following keywords: ("*artificial intelligence*" OR "*machine learning*" OR "*computational intelligence*" OR "*soft computing*" OR "*data mining*" OR "*evolutionary computation*" OR "*evolutionary programming*" OR "*genetic algorithm*" OR "*genetic programming*" OR "*fuzzy systems*" OR "*deep learning*" OR "*robot*" OR "*automation*" OR "*big data*" OR "*neural network\**" OR "*text mining*" OR "*natural language processing*" OR "*chatbot*" OR "*soft computing*" OR "*fuzzy logic*" OR "*biometrics*" OR "*geotagging*" OR "*wearable\**" OR "*IoT*" OR "*internet of things*") AND ("*marketing*" OR "*marketing strateg\**" OR "*marketing practic\**") AND (*social enterprise\**" OR "*social enterpr\**").

We are aware that it is a hard goal to be achieved due to the novelty of the study. As far as we know, this is the first study focuses on three prominent topics: social marketing; SEs and AIs. We are going to stimulate new thoughts to scholars and practitioners on the understanding the existing *status quo* of SEs in the use of AI and implementation of social marketing. We would like to understand if there is

any change comparing with the past (Andreasen, 2002) and if the AIs are facilitating the development of social marketing campaign although resource constraints.

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*Keywords: social enterprise marketing; social enterprise; artificial intelligence; digital transformation; systematic literature review*

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## THE IMPACT OF EARNINGS MANAGEMENT ON PERFORMANCE EUROPEAN BANKING: THE MODERATING EFFECT OF ESG

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### ABSTRACT

**Objective** – This article aims to examine whether earnings management and the performance of Environmental, Social, and Governance (ESG) practices influence bank performance. Furthermore, the authors investigate whether ESG moderates the relationship between earnings management and performance.

**Design/ Methodology** – The empirical study is based on a sample of 32 European listed banks during the period 2017-2021, using the Generalized Moments Method (GMM) as an estimation methodology for econometric models.

**Results** – The results obtained suggest that earnings management has a negative and significant impact on banking performance. Furthermore, the empirical evidence tends to suggest that banks' ESG performance positively affects performance, positively and significantly moderating the negative impact of earnings management on European banking performance. Thus, the results suggest that ESG performance builds trust in the banking institution from the stakeholders' point of view. In line with the conclusions of Pathak & Gupta (2022), stakeholders accept performance, alleviating the need for managers to print the practice of earnings management. The results also suggest that regulators should promote more standards encouraging ESG-related practices in the banking context.

**Practical implications** – The study contributes to the growing literature on earnings management and ESG in the banking context. It provides a better understanding of their role as determinants of banking industry performance. The results suggest regulators should promote more standards encouraging ESG-related practices in the banking context. To our best knowledge, the effect of ESG performance on the relationship between earnings management and the performance of the banking industry has yet to be studied.

Despite the results found in the present study, it is not exempt from limitations, which are likely to be overcome with future investigation. Such limitations are mainly related to the way the variables considered are measured. First, banking performance is measured by formulas associated with the calculation of Tobin's ROA, ROE, and Q, which may not reflect the best option despite being widely used. Thus, considering other formulas for calculating and even measuring performance is of future interest. At the level of the ESG variable that translates the ESG performance of each banking

institution, it was considered, based on previous research, as a weighted average of the scores obtained in each of its components. It should be noted, however, that previous research has also considered another way to measure ESG performance – a weighted average of the scores obtained in each of its components, discounted for the impact of negative information on the media (e.g., Menicucci & Paolucci, 2023; Miralles-Quirós et al., 2019). Thus, we suggest testing the hypotheses concerning other measures to test the results' robustness.

**Originality** – In the best knowledge of the literature, the effect of ESG performance on the relationship between earnings management and banking performance has not yet been studied.

*Keywords:* ESG; Banking performance; Earnings management; European banks; GMM.

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**THE EUROPEAN GREEN DEAL AND TURKEY: CHANCES FOR GREEN TECH  
TRANSITION AND MARKET GROWTH. A BIBLIOMETRIC ANALYSIS AND A  
SYSTEMATIC LITERATURE REVIEW**

**HARNESSING TALENT IN A TURBULENT GLOBAL ERA: A CONCEPTUAL  
FRAMEWORK FOR BUSINESS TRANSFORMATION SUCCESS**

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**ABSTRACT**

The aim of this study is to develop a theory that establishes a conceptual framework demonstrating the interrelationships among organisational culture, leadership, employer branding, and talent management practices, specifically in the areas of talent recruitment, talent development, and talent retention. Furthermore, this study seeks to examine the influence of these practices on the digital transformation, quality 4.0, and sustainability of organisations. For the purpose of this study, the methodology approach consists of a comprehensive combination of an in-depth literature analysis and supplemented with the administration of a research questionnaire to Greek organisations. The primary objective is to construct a framework that integrates organisational culture, leadership, and employer branding as impact factors of talent recruitment, talent development, and talent retention, and their influence on digital transformation and quality 4.0 processes, as well as on organizational sustainability. This study contributes to the existing literature by developing a conceptual framework for researching the links mentioned above. It aims to investigate and explain the correlations and dynamic nature of these relationships. The proposed framework is a valuable tool for managers as it provides valuable insights into organisational development and excellence. This research is expected to contribute to the further development of the current knowledge base on talent management.

*Keywords: Talent Management, Organizational Culture, Leadership, Employer Branding, Digital Transformation, Quality 4.0, Organizational Sustainability*

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## ABSTRACT

### INTRODUCTION

*The European Green Deal* (EGD), which was made public by the European Commission on 11 December 2019 is the European Union's (EU) new growth strategy that aims to make Europe the world's first climate-neutral continent by 2050, with net zero greenhouse gas emissions. (Republic of Türkiye Foreign Ministry: Directorate for EU Affairs, 2024a; European Commission, 2019). In this context, this strategy aims to transition the EU to a fully sustainable economy within the framework of combating climate change.

Since the EGD is the strategy of a giant economic bloc like the EU and envisages a serious sanction mechanism such as the *The Carbon Border Adjustment Mechanism*, it directly affects not only EU countries but also other countries that have commercial and political relations with the EU. One of these countries is Türkiye, which has the status of a candidate country for the EU and has a *Customs Union Decision* and strong economic relations with the EU. The chapters in the membership negotiations with the EU and the Customs Union Decision require Türkiye to officially/mandatory follow a policy compatible with the EGD (Republic of Türkiye Foreign Ministry: Directorate for EU Affairs, 2024b; Republic of Türkiye Foreign Ministry: Directorate for EU Affairs, 2022; Official Journal of the European Communities, 1996). Türkiye's being one of the countries expected to be most affected by climate change, its strong economic relationship with the EU and the fact that the EGD offers Türkiye the opportunity to transition to modern and sustainable technology and increase its market share in the EU require Türkiye to voluntarily follow a policy compatible with the EGD. In this context, the Republic of Türkiye Ministry of Commerce determined a new growth strategy compatible with the EGD and declared it in 2021 under the name of *Türkiye Green Deal Action Plan* (Ministry of Trade: Republic of Türkiye, 2022).

Since the EGD is a very new strategy, studies on its impact on Türkiye are very new and insufficient. Studies on this subject generally focus on the result rather than the meaning. However, this study focused on its meaning. The research question is the following: What the EGD means for Türkiye? Could the strategy be the opportunity for the transition of Türkiye to sustainable technology and to increase its market share in the EU market?

### METHODOLOGY

The main components of a bibliometric analysis are performance analysis and science mapping that allow to evaluate the productivity and impact of research and contributors in a specific field and also analyze the key themes. (Lim et al., 2023). To answer the research question, this work employs two methodologies: Bibliometric analysis and Systematic Literature Review (SLR). This research will utilize Bibliometrix, an R-language software, to perform a comprehensive and meticulous Bibliometric analysis (Aria et al., 2017). The SLR methodology involves the processes of identifying, selecting, categorizing, and analyzing relevant articles on a specified subject (Rana et al., 2022). Considering that Bibliometric analysis and SLR require the selection of the papers which will be analyzed to carry out the work, criteria such as database (Web of Science, Science Direct, Scopus, etc.), time range, keywords and boolean operators must be determined.

## **EXPECTED RESULTS**

The main finding of the research is that the EGD and compliance with the EGD are an opportunity for Turkiye and therefore Turkiye's current compliance with the EGD is based not only on officially/mandatory but also on volunteering.

## **LIMITATIONS**

About the limitation of this study, it could be summarized in the number of papers selected through the keywords chosen and the boolean operators used. These factors could exclude some papers on which this work is interested to examine in order to answer the research question. It could be one of the starting points for future research. Additionally, the study may be limited by the availability of full-text access to certain articles, which could lead to a partial view of the existing literature.

## **FUTURE RESEARCH**

Starting from the above mentioned limitation, one possible future step could be the collection of other papers using different criteria like time frame, keywords and boolean operators.

*Keywords: Climate Change, European Green Deal, Sustainability, Turkiye Green Deal Action Plan*

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## DYNAMIC PRICING IN THE DIGITALISED LINER SHIPPING INDUSTRY

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### ABSTRACT

In the liner shipping industry, digitalisation is gaining momentum and being positioned as the industry's future, much like various other sectors. This study seeks to uncover the drivers of dynamic pricing strategies and the managerial and technological skills liner shipping businesses need to adopt digitalisation best practices. It aims to contribute to the expanding field of research on digitalisation in liner shipping. Qualitative research is conducted through semi-structured interviews with industry professionals and a review of pertinent literature on dynamic pricing and digitalisation within this sector. Thematic analysis of expert interview transcripts is employed to identify the primary drivers for dynamic pricing adoption in liner shipping along with their potential benefits, as well as the essential managerial and technological competencies required for successful adoption. The findings provide valuable industrial insights and lay the groundwork for future research while also offering recommendations for improving management and commercial practices within the liner shipping industry.

### INTRODUCTION

The liner shipping industry operates within a volatile environment characterized by fluctuations in bunker prices, inflationary pressures, and disruptions in the supply chain (UNCTAD, 2022). Amidst these challenges, the industry has been undergoing a profound transformation driven by digitalization trends and shifting customer preferences. To effectively navigate this evolving landscape and address complex customer demands while adapting to market fluctuations impacting freight rates, liner shipping companies are increasingly turning to digitalization, particularly in the realm of pricing strategies (Egloff *et al.*, 2018). While the notion of adjusting prices in response to competition, as exemplified by the airline industry, has long been recognized (Dean, 1950), the advent of "Dynamic Pricing" represents a more recent development, with digital transformations exerting a profound influence on contemporary work environments (Jeschke and Endress, 2023). Such rapid shifts in digital innovation necessitate industry-specific adaptations in business practices (Endress and Badir, 2023). However, the transition from static to dynamic pricing poses inherent challenges, requiring meticulous planning and implementation due to uncertainties surrounding customer

behaviour and the need for organizational change (Ellickson *et al.*, 2012; Kahneman *et al.*, 1986). In light of these considerations, this study aims to explore the key driving factors behind the adoption of dynamic pricing and the managerial and technological capabilities essential for its successful implementation within the liner shipping industry.

**METHODOLOGY**

The paper presents qualitative research based on semi-structured interviews with industry experts and reviews relevant literature on dynamic pricing and digitalization in the liner shipping industry. To gather the relevant information from the industry, a suitable method would be to gather experts' opinions, as it is necessary to gain access from the observers and mechanics through semi-structured interviews (Elster, 1998). The interview questions span wide across the research objectives to discover and discuss any underlying issues or challenges regarding the adoption of dynamic pricing and digitalization in the industry. The authors take a thematic analysis based on the text transcription of the interview data with the experts using NVIVO 14 to analyse and identify the key driving factors.

**FINDINGS**

The study provides the key factors driving the adoption of dynamic pricing and digitalization in the container liner business and its potential benefits.

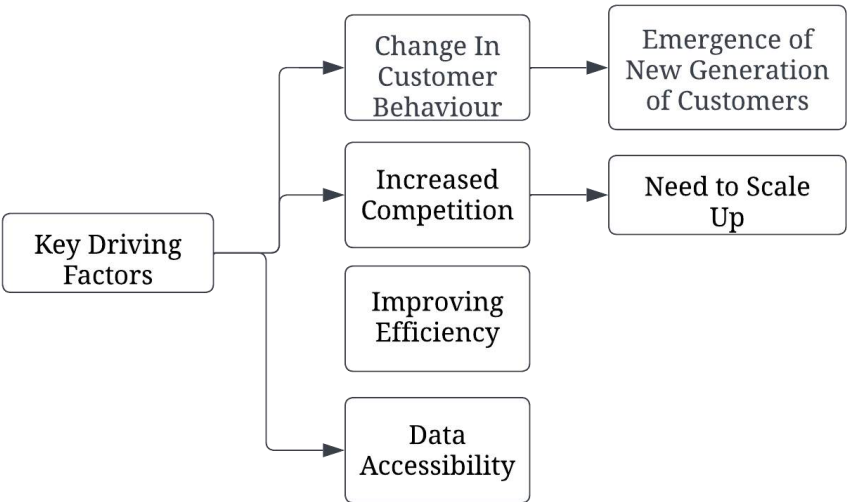


Figure 1 Key Driving Factors (Source: Author’s compilation based on coding results from NVIVO14)

The findings underscore the intricate dynamics of dynamic pricing adoption within the liner shipping domain, accentuating its role in addressing evolving customer demands, enhancing efficiency, and

navigating heightened competition. Notably, the study also reveals a divergence in perspectives, with scepticism surrounding the perceived relevance and efficacy of dynamic pricing strategies in achieving overarching objectives among liner shippers.

## CONCLUSION

In summary, the study delineates four primary catalysts driving the adoption of dynamic pricing within the liner shipping sector: evolving customer behaviours, intensified market competition, operational efficiency imperatives, and enhanced data accessibility. Significantly, a discernible shift in customer preferences towards online transactions underscores the urgency for swift and efficient transport solutions. Additionally, liner companies are compelled to leverage dynamic pricing strategies to maintain a competitive edge and elevate customer satisfaction levels. The implementation of dynamic pricing not only optimizes operational efficiency through process streamlining and data-driven decision-making but also mandates technological investments and talent augmentation. Furthermore, the study concludes by proffering actionable recommendations aimed at aiding liner shipping firms in adeptly navigating digital transformation and fortifying their competitive positions. These recommendations advocate for strategic investments in technology and workforce development, diversification of service portfolios, and strategic partnerships to expand service reach. Moreover, the study underscores the imperative for increased collaboration and standardization within the industry to effectively address the challenges and opportunities presented by dynamic pricing adoption. In addition, it is important to note that due to the chosen research approach, the findings of this study may lack generalizability. Therefore, researchers are encouraged to further test the proposed propositions to validate their applicability across diverse contexts within the liner shipping industry.

Keywords: Dynamic pricing, Digitalisation, Digital Transformation, liner shipping

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## **BENEFIT OR BURDEN? EXAMINING ECONOMIC IMPACT OF IMMIGRATION FOR THE HOST COUNTRY UNDER NEW CIRCUMSTANCES**

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### **ABSTRACT**

#### **RESEARCH GAP/PURPOSE**

The movement of people who cross state borders is a complex phenomenon observed all over the world. However, long-term data shows that international migration is not uniform across the world but is shaped by a number of factors, including economic, social, demographic, geopolitical and other factors, which result in distinct migration patterns (IOM, 2022; Bello Isaias, 1989). Mostly, migrants are moving to those states that offer the best economic opportunities. Furthermore, migrants are more likely to choose to immigrate to a country where human rights and freedoms are guaranteed and the level of discrimination is low. Moreover, recent large-scale migrations have been provoked by reactions to dangers posed by armed conflicts. For a considerable period of time, particularly since Lithuania's accession to the European Union in 2004, the country was perceived as a nation of emigration. In light of this, the topic of emigration of the Lithuanian population has been discussed in greater depth in scientific papers (Remeikienė and Gasparėnienė, 2018; Kasnauskiene and Kavalnis, 2021; Kavalnis and Kasnauskiene, 2022). However, since 2019, there has been a fundamental change in the demographic profile of the country, with the number of immigrants exceeding the number of emigrants (State Data Agency, 2024). Consequently, the new arrivals began to assume an increasingly significant role in the Lithuanian economy. One of the key questions on migration that has been widely discussed in the literature is the extent to which it benefits or costs the receiving economies. However, there is a paucity of knowledge regarding the impact of immigrants on macroeconomic indicators in the country following significant shifts in the direction of migration flows. Consequently, this paper seeks to address the aforementioned gap by identifying and analyzing the principal economic consequences of population immigration for the receiving country, namely Lithuania.

#### **DESIGN/METHODOLOGY/APPROACH**

The authors conducted a comprehensive literature review and employed a quantitative approach to examine the impact of immigration on key economic indicators. While there are numerous factors influencing the decision of immigrants to select a particular country, the availability of better employment opportunities remains a significant motivating factor. It is commonly assumed that an

increase in the number of immigrants will result in local populations becoming dissatisfied due to the rise in demand for employment, which makes it more challenging for them to find work. A substantial number of authors concur that substantial inflows of immigrants can influence the structure of the host country's labour market, thereby intensifying competition within it (Borjas, 2001; Edo, 2019; Edo et al., 2020). However, from an economic perspective, in a state that lacks a labour force, the arrival of immigrants can be viewed positively. On the other hand, if the labour market is already full of labour demand exceeding supply, incoming immigrants can raise the unemployment rate above the natural level and result in unemployment prevailing in the country. Moreover, the arrival of newcomers can affect the country's GDP, public finance, tax system, wages and the wider economy in the short, medium and long term (Tatay and Bándy, 2020; Hennessey and Hagen-Zanker, 2020; Edo et al., 2020; Glitz and Rapoport, 2024; Dritsaki and Dritsaki, 2024; OECD/ILO, 2018).

The empirical research presented here employs various methods and econometric techniques to address the issues identified in the use of State Data Agency quarterly data for Lithuania over the period from 2004 QIII to 2023 QI. These include the construction of autoregressive integrated moving average (ARIMA), vector auto-regression (VAR) and structural vector autoregression (SVAR) models. To ascertain the stationarity of the variables, Phillips and Perron (PP) unit root tests were employed. Furthermore, the Granger causality test was used to investigate the lag structure and identify exogenous variables in the VAR models.

The research question of our study is as follows: how may a receiving economy react to a change in immigration? The present paper focuses on three of the most frequently discussed dimensions of the economic impacts of immigration in the literature. In light of the aforementioned arguments, the following hypothesis are developed in the paper:

*H1:* An increase of the number of immigrants has a positive effect on the change in GDP per capita.

*H2:* An increase in the number of immigrants has a negative effect on the change in wages.

*H3:* An increase of the number of immigrants has a positive effect on the change in the unemployment rate.

## **FINDINGS/LIMITATIONS**

The decision to reject or not to reject our hypotheses is taken based on the results of analysis of the data.

Empirical studies on the effect of immigration on GDP lead to different conclusions (OECD/ILO, 2018). Some researchers claim that in the long run, immigrants can increase the overall efficiency of the economy by bringing new skills, stimulating efficient specialization, and encouraging firm creation (Peri, 2014). There is, however, some general agreement in the literature that there is probably

a small positive effect on GDP per capita from immigration (Dustmann et.al, 2006). Our first hypothesis claimed that the increase of the number immigrants has a positive influence on GDP per capita change; however, the results of the study revealed the opposite relationship. Therefore, *H1 is rejected*: an increase of immigration flows has a negative effect on GDP per capita in Lithuania.

Many studies in recent decades have analyzed the effect of immigration on the wages, assessing the magnitude and direction of the impact. Our results show that the change the increase of the number of immigrants has a positive effect on wages only after the first period, but after 5 periods, it has a negative effect, which is stronger than the positive one observed after the first period. Thus, the overall effect of immigration on wages in the long run is negative in case of Lithuania, and the second hypothesis *H2 is not rejected*. These results are in line with the empirical evidence, which overwhelmingly suggests that there are zero or small negative effects of immigration on wages (Dustmann et.al, 2006; Peri, 2014).

The results of our analysis reveals that the amount of immigration does not have a direct impact on the change in the unemployment rate in Lithuania. Thus, the third hypothesis *H3* (the increase in the number of immigrants has a positive influence for the change in the unemployment rate) *is rejected*. It should be noted that in recent years, a number of studies have chosen many different ways and perspectives to look at the impact of immigrants on unemployment and wages leading the authors to the different conclusions. In other words, the results of these studies are too mixed to draw unequivocal conclusions. However, most of the empirical studies come to a consensus that in the *long term*, the impact of migration on employment and wages for the native population is either negligible or slightly positive, as outlined in Edo et al. (2020) and varies by geographic location. At the same time, the evidence is mixed regarding the *short term* effects of migration on employment and wages (Poledna et al., 2024; OECD/ILO, 2018).

It is worth noting some limitations of the empirical analysis. When conducting this kind of research, it is important to take into account the structural breaks of the studied variables, which may be present resulting from certain economic, geopolitical and other processes. When evaluating immigration in Lithuania, it is important to note that from the first quarter of 2022, due to the arrival of Ukrainians seeking asylum the amount of immigrants jumped sharply. In order to assess the economic impact of immigration in Lithuania more precisely and evaluate how the arrival of Ukrainians to Lithuania changed the dynamics of the economy, thus, to have a truer picture, period from the first quarter of 2022 should be excluded from the study.

Further research in the Lithuanian context is required to validate these findings and identify new correlations and meaningfulness. In light of the findings of other researchers, it can be observed that the impact of immigration may vary depending on the composition and qualification level of the

immigrant population. It is widely acknowledged that immigration has a more beneficial impact on economic growth when the immigrant flow comprises high-skill workers. Furthermore, the assessment of the impact of immigration on the Lithuanian economy could be enhanced by incorporating a structural shock into an econometric model. It can be observed that the quantity of immigration in 2022 increased considerably. Consequently, incorporating a structural shock into the model would result in more accurate outcomes.

## ORIGINALITY/VALUE

Since 2019, the number of immigrants in Lithuania has increased significantly. It is a challenging task to assess the overall net benefit or burden to the host economy from immigration. Nevertheless, a comprehensive analysis of this subject matter reveals that establishing a correlation between GDP, domestic employment, wages on one hand and changes in immigration on the other will remain challenging in the Lithuanian context, particularly in light of the rising inflow and complexity of immigration. The study makes a unique contribution to the existing literature on the process of population migration and the identification of essential economic consequences in the case of a specific country. Furthermore, the findings of this research will inform future decisions, thereby enabling researchers and policymakers to gain a deeper understanding of the effects of inflows of migrants and to propose more effective, realistic, and proactive migration policies. It is also crucial to investigate the relationship between emigration and immigration flows and their impact on labour market outcomes (OEC/ILO, 2018). One of the principal channels through which migration affects growth is the skill level of immigrants (McCann, 2001; Nijkamp and Poot, 1998). This suggests that, given the challenges posed by an ageing population and a shortage of skilled labour, more open immigration policies, focused on attracting economically active immigrants with a balanced skill mix or slightly favouring the university-educated, would likely have a positive impact on the economy in the long term.

*Keywords: Immigration, economic consequences, growth, unemployment, wages*

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## CAPACITY BUILDING IN THE HOSPITALITY INDUSTRY IN THE MAGHREB REGION

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### ABSTRACT

The food sector is a major contributor to a country's cultural heritage, economy and even global reputation. By increasing their tourism potential, countries can improve their global competitiveness through the richness of their cuisine. Hence, interests in the food area might animate monetary development and open new revenue avenues. From a currently important and trendy social perspective, issues and patterns in the food sector such as organic food and sustainable food production straightforwardly affect the wellbeing and prosperity of society and mankind.

In addition, the activities of the food industry also have a significant impact on the currently much debated efficient use of natural resources, waste generation and climate change.

Current studies highlight the importance of education in promoting social sustainability in the food industry, particularly for marginalized groups. Both, Toussaint (2021) and Samkange et al. (2021) point to the role of education in promoting social sustainability and in bridging the development gap between privileged and marginalized communities. They recommend training programs to increase the awareness of employees and consumers. In this context, Valley et al. (2020) calls for the integration of an equity competency model in sustainable food systems education programs to address social inequities. Casanova-Correa et al. (2022) and Tippmann (2020), further, underscore the importance of education in promoting sustainable food production and consumption practices. However, O'Halloran and Silver (2022) challenge the assumption that sustainability related knowledge alone can trigger behavior change, suggesting the need for more diverse research in this area. These research gaps strongly imply that education and training for sustainability should be enhanced, integrating food producers in the process and to explore the potential for entrepreneurship to empower marginalized groups (Casanova-Correa et al., 2022; Samkange et al., 2021; Fagioli, 2024). Interestingly, Khojasteh (2020) focuses on the transformative potential of immigrant and smallholder food enterprises, respectively, in revitalizing communities and enhancing food security.

In this context, the digitalization of the food industry bears significant potential for sustainability and entrepreneurship (Kosior, 2022; Annosi et al., 2020; Amentae, 2021). Digitalization can enhance traceability in the food supply chain, reduce labor costs, and improve production time (Manjula et al., 2021). Key enablers of digitalization include blockchain, the Internet of Things, big data analytics, and

artificial intelligence (Amentae, 2021). However, the pace and scope of digital changes in the industry are still limited, with significant territorial inequalities in digitalization levels (Kosior, 2022). Furthermore, challenges in the adoption of smart technologies include infrastructure, cost, knowledge, and regulations (Annosi et al., 2020). Conclusively, the education/training and industry alike must effectively respond to environmental, social, economic and technological pressures in the food sector. Hence, future research should deepen our understanding of the interaction of internationalization, education/training, sustainability, climate changes, transformative digitalization and entrepreneurial opportunities in the food sector.

The project Food Routes (ERASMUS-EDU-2023-CB-VET- Capacity building in the field of vocational education and training (VET) aims to disentangle this complex web of challenges and intends to strengthen the VET ecosystem of the Maghreb region in providing a qualified young and entrepreneurial workforce in the gastronomy field in line with the aspirations of both private sector's stakeholders as well as those of young VET graduates. This will be done by empowering VET staff in supporting youth's career counselling and by providing new and relevant competence-oriented training to VET students for proactively seizing business opportunities in the gastronomy sector.

The main samples for Food Routes are employers, trainers, educators, and students in VET from the Maghreb region, in the Southern-Mediterranean.

Initially, this research aims to conduct a situation analysis on the aforementioned gaps and challenges of the food sectors in Tunisia, and Morocco comparing it with those of Germany, Italy and Greece to facilitate a comparison of perspectives and the transfer of best practice. The paper will provide an initial conceptualization to address research questions related to the aforementioned nexus between sustainability, technology and entrepreneurship. Initial findings of the first qualitative stage with respectively 8 employers and 8 employees/VET graduates in each country are provided to validate the initial conceptualization. The qualitative data are analysed via content analysis and the software MaxQDA.

*Keywords: food, tourism, organic and sustainable food, professional education, training, entrepreneurship*

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## INDUSTRIAL SYMBIOSIS AND CIRCULAR ECONOMY UNDER THE FRAMEWORK OF INDUSTRY 4.0

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### ABSTRACT

**Research conceptualization.** Industrial ecology is one of the most prominent philosophies related to sustainability and is not just a novelty in the constantly dynamic business environment. This multidisciplinary field emphasizes a fundamental concept, industrial symbiosis, to explain the holistic approach that describes the synergy between inter-organizational environmental management systems in aligning industrial systems with ecological principles, aiming for sustainability and reduced environmental impact.

**Purpose.** This article explains the value creation process enabled by industrial symbiosis to achieve the circular economy objectives under the framework of Industry 4.0. A circular economy, as opposed to a linear economy, represents a unique viewpoint that offers our society sustainable production and consumption while balancing the economic, environmental, and societal dimensions. Consequently, we conducted a bibliometric analysis to address the subsequent research inquiries:

*RQ1:* How is the research of the circular economy impacted by the advancement of Industry 4.0 and network approaches over time?

*RQ2:* How is the research of industrial symbiosis impacted by the advancement of Industry 4.0 and network approaches over time?

*RQ3:* What are the upcoming opportunities to consider in research into the circular economy to generate value through industrial symbiosis?

**Methodology.** A bibliometric analysis was performed to explore our data and to address our main research questions. This methodology is a widely employed and valuable approach that incorporates quantitative metrics and indicators to evaluate scientific and technological fields based on bibliographic data (Gutiérrez-Salcedo *et al.*, 2018; Pessin, Yamane, and Siman, 2022). Our research protocol has two primary parts: data set configuration and enhancement of results. The literature investigation was conducted by relying on the Scopus database, the most extensive database for abstracts and citations. We performed a search for articles based on titles, keywords, and abstracts by reviewing the literature on Circular economy, industrial symbiosis, network approach, and industry 4.0 (Araujo Galvão *et al.*, 2018; Fraccascia and Giannoccaro, 2020; Neves *et al.*, 2020; Sony and Naik, 2020; Alnajem, Mostafa and ElMelegy, 2021; Arruda *et al.*, 2021) and by employing our understanding throughout the field, to

establish relevant and accurate terminology. This method yielded the following keyword formula: (“circular economy” OR “reducing” OR “reusing” OR “recycling” OR “resource efficiency” OR “regenerative economy” OR “remanufacturing” OR “ecological economy”) AND (“sustainability” OR “sustainable development” OR “conscious capitalism”) AND (“industry 4.0” OR “fourth industrial revolution” OR “I4” OR “smart manufacturing” OR “IoT” OR “big data” OR “robotics” OR “automation” OR “intelligent factories”)(“industrial symbiosis” AND “circular economy” AND “industry 4.0” and “network analysis”).

**Research limitations.** This study’s limitations are related to a small sample of articles analyzed, a specific, precise keyword algorithm on Scopus as a larger sample of articles, and a different keyword algorithm applied at another search database could generate different outcomes. Those limitations need to be considered in future research.

**Implications and contribution.** This research emphasizes the importance of the circular economy as a prerequisite to lead toward sustainability and how industrial symbiosis can contribute to a circular economy according to the conditions defined by Industry 4.0. The technical aspects of creating new value are supported by the contribution of Industry 4.0, which provides new technologies that facilitate the functioning of the latest business models defined by the circular economy. This article also delineates practices that aim and intend to create the necessary context to promote a circular economy through industrial symbiosis. The network approach remains a crucial strategy to guarantee the participation of all interest groups and their inclusion by facilitating their contribution, as well as a more holistic approach that better enables the aims toward sustainability relying on the ecosystem approach (Baldassarre *et al.*, 2019).

**Originality of the paper.** Based on the main motives of this paper, we formulated this research to address the identified gaps and contribute to providing a multidisciplinary framework for exploring industrial symbiosis and circular economy in Industry 4.0 in future research. Bibliometric literature analysis applies to industrial symbiosis and the circular economy. However, we find that there is enormous potential for bibliometric approaches to address the context of Industry 4.0 and its networks, try to provide a rigorous assessment of literature, and bring an ecosystem view (Baldassarre *et al.*, 2019; Oughton *et al.*, 2022) that ensures the universality of the actors involved. Furthermore, through the treatment of three research issues, our work contributes to the inter-disciplinary debate on sustainability, addressing not just the needs of the technological context and affecting the progress of the debate. Since the study’s progress will occur at the intersection of three interdisciplinary fields: industrial synergy advancement, circular economy advancement, and industry 4.0 advancement, future research recommendations should focus on integrating all fields and address critical questions that must still be answered.

*Keywords: Circular Economy, Industrial Symbiosis, Industry 4.0, Sustainability, Business, Transformation*

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## HOW DO MEANINGFUL WORK AND ALIGNMENT WITH ORGANIZATIONAL VALUES AFFECT ORGANIZATIONAL CITIZENSHIP BEHAVIOR?

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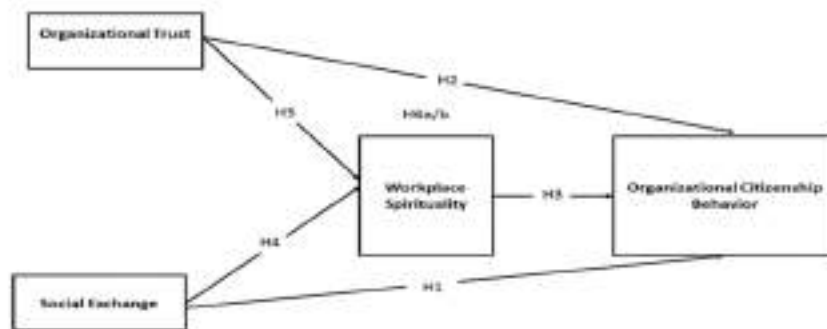
### ABSTRACT

Drucker, the great management thinker, stated in his classic study (1955) that "the spirit that motivates, that calls upon a man's reserves of dedication and effort...decides whether he will give his best or just enough to get by". The concept of 'workplace spirituality' is relatively new, recently arising in the organizational behavior domain of scholarly literature (Jena, 2022). While toxic culture was found as the biggest factor pushing employees out the door during the Great Resignation (Sull *et al.*, 2022), awareness of workplace spirituality is crucial (Stokes *et al.*, 2016). Our goal is to move away from the literature's primary focus on the direct relationship between social exchange, trust, and OCB, and thereby explore the nature of exchanges through workplace spirituality as a mediator among front-line service employees.

This study makes three major contributions. Recently, the study of the impact of spirituality on service employees has emerged as an empirical topic (e.g., Bayighomog and Arasli, 2019; Hassan *et al.*, 2021). Specifically, employees with a high level of spirituality translate it into their motivation for public service (Hassan *et al.*, 2021). The current study provides a framework and rationale for fostering workplace spirituality among service employees and further suggests that workplace spirituality is a beneficial resource for service organizations. Second, despite the rapid growth of the literature and interest on spirituality at work, identifying the drivers of workplace spirituality as well as its effect on OCB represents another avenue for needed research. Further research should pursue the relationship between workplace spirituality and performance while also probing possible moderators and mediators (Rathee and Rajain, 2020). The current study offers an innovative perspective on previous research by proposing and testing the mediating role of workplace spirituality between social exchange, organizational trust, and OCB. Finally, while Employee–Organization Relationship (EOR) framework serves as a foundation for understanding OCB (Shore *et al.*, 2006), a review of the empirical evidence shows that while mutual investment is a dominant element of EOR, research has not sufficiently differentiated between OCBO and OCBI (Coyle-Shapiro *et al.*, 2018). This research seeks to address this shortcoming in the literature by examining the relationship between the components of

workplace spirituality (i.e., alignment with organizational values and meaningful work) and OCBO and OCBI (see Figure 1).

Figure 1: Research Model



## METHOD

An online survey was conducted at two different chronological points. The two questionnaire waves were paired, providing complete data for 350 participants. All items were measured on a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). *Organizational Trust (T1)*- was assessed via a four-item measure developed and validated by Huff and Kelley (2003); *Social Exchange (T1)*- was assessed via a seven-item measure developed and validated by Shore *et al.* (2006); *Workplace spirituality (T2)*- was measured based on 15 items developed and validated by Ashmos and Duchon (2000) and modified by Milliman *et al.* (2003); *OCB (T2)*- was measured based on Williams and Anderson's (1991) scale. OCB is divided between two dimensions: Six-items measured OCBO and six-items measured OCBI; *Control Variables (T1)*- variables were controlled, including gender, education, and tenure to determine if demographic characteristics have any significant impact on a model. Previous studies showed that these demographic variables are potential predictors of OCB (Kim, 2014; Kirkman *et al.*, 2009).

## RESULTS

A measurement model was performed as a preliminary test for construct validity and this resulted in an acceptance model fit level and beyond ( $\chi^2=1019.54$ ,  $df=636$ ,  $p<.001$ ; CFI=.944, TLI=.938; RMSEA=.046, 95% CI [.037, .046]; SRMR=.054). Correlations between variables as received from the measurement model confirmed all the direct hypotheses (H1-H5). The final structural model included the control variables (i.e., gender, education, and tenure). The model Goodness-of-Fit met acceptance criteria ( $\chi^2=1368.99$ ,  $df=741$ ,  $p<.001$ ; CFI=.927, TLI=.920; RMSEA=.049; SRMR=.054) (Marsh *et al.*, 2004). The mediating hypotheses (H6a-H6b) were tested within SEM. The mediating effect of workplace spirituality was tested through its two dimensions (i.e., alignment with organization's values and

meaningful work); additionally, we distinguished between the two outcome forms of OCB (i.e., OCBI and OCBO). The path from social exchange to OCBI was indirectly mediated through alignment with organizational values (indirect=.12,  $p<.05$ ), as was the path from trust to OCBI through alignment with organizational values (indirect=.12,  $p<.05$ ). Indirect effects were also found from social exchange and trust toward OCBO through meaningful work (indirect=.07,  $p<.05$ ; indirect=.08,  $p<.05$ ; respectively). All indirect effects were complete rather than partial. In sum, the findings support our original hypotheses and research model.

## DISCUSSION

This study serves as stepping stones toward integrating workplace spirituality in the stream research concerning the EOR framework and OCB. Empirically testing workplace spirituality and OCB by their latent factors advances the field by exposing unique relationships rather than the general one. The current study is the first of its kind to address workplace spirituality as a mediator between social exchange, organizational trust, and OCB. We provide preliminary evidence that both social exchange and organizational trust relate to meaningful work, which, in turn, relates to OCBO. Vedula and Agrawal (2024) stated that spiritual needs are related to meaningful engagement in work. This perspective contends that incorporating meaningful work positively impacts service employees' attitudes toward their organization, including OCBO. Interestingly, another substantive insight this study provides concerns the mediating role of alignment with organizational values between social exchange, organizational trust, and OCBI of service employees. We expect that service employees who perceive an alignment with organizational values feel a sense of belongingness and are more likely to be psychologically attached to their colleagues. A sense of relatedness can increase empathy for others, which can motivate employees to act in ways that benefit others (Einolf, 2013). This finding contributes to the existing literature on EOR by opening a new research perspective on OCB. We trust that this study provides insights and inspiration on the application and incorporation of spirituality in work settings.

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## HOW TO REAWAKENING WORK PASSION AFTER COVID-19 PANDEMIC?

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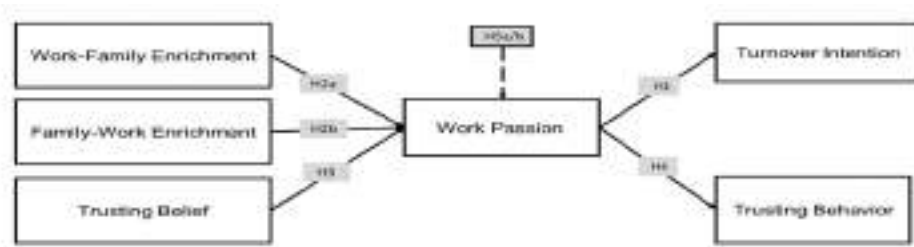
### ABSTRACT

Beginning in 2021 and 2022 two key events profoundly affecting organizations have been labeled the 'great resignation' and 'quiet quitting' (Formicaa & Sfodera, 2022). These two significant workplace trends raise questions about employee's motivation. With this as background, the present study proposes a key assumption: Work-Family Enrichment (WFE/FWE) and trusting belief in managers can be perceived as resources that support, enrich, and enable employees to be more work passionate, and this, as a result, will decrease their turnover intention as well as increase their trusting behavior.

This study offers several theoretical and practical contributions to the discipline of motivation: First, although work passion mostly relies on one dominant theoretical perspective, we assume that investigating its various antecedents and outcomes should make use of multiple theoretical perspectives. Therefore, this study provides important theoretical underpinnings for our understanding of the interrelationship dynamics of the research model by synthesizing and extending the boundaries of both Conservation of Resources (COR) theory (Hobfoll, 1989, 2018) with Self-Determination Theory (SDT) (Deci and Ryan, 2000); Second, this study presents a unique perspective concerning the mediating role of work passion. Therefore, according to Vallerand (2015), a core element of passion is that it is generated in the context of a specific activity. Drawing on COR theory, WFE/FWE produces positive ideal conditions which permit employees to build resources that can increase their investment and passion at work and yield a 'caravan passageway' (Hobfoll, 2011). This dynamic reflects a gain spiral helping to predict less turnover intention, as well greater trusting behavior; Third, the current study provides novel insights about the sophisticated dynamics of resource investment and acquisition in the manager-employee relationship. The impact of the manager-employee relationship on employees' passion has not yet received adequate research attention (Egan *et al.*, 2017). Using COR theory, we argue that an effective relationship can yield a positive resource caravan passageway (Hobfoll, 2011). Trusting belief in one's manager influences an employee's ability to develop resources, such as work passion, which subsequently yields trusting behavior. Following SDT (Deci and Ryan, 2000), this 'caravan passageway' suggests that *relatedness* plays a role in the maintenance of employees' work passion.

### Figure 1: Research Model





## RESEARCH METHOD

The survey was conducted online utilizing iPanel, a broad and representative Israeli online database panel. The survey was administered in three waves within a period of two weeks between each wave to another. 352 respondents completed the three waves survey. All measures except trusting behavior were rated on a 7-point Likert-type scale ranging from 1 = strongly disagree to 7 = strongly agree. *Trusting belief* (T1)- was measured using the 4-item developed and validated by Robinson (1996); *Work-Family/Family (T1)-Work Enrichment*- was measured using the 6-item scale presented by Grzywacz and Marks (2000); *Work Passion* (T2)- was measured using the 7-item harmonious passion of developed and validated by Vallerand *et al.* (2003); *Turnover Intention* (T3)- was measured using the 3-item designed by Sjöberg and Sverke (2000); *Trusting behavior* (T3)- was measured using the 4-item designed by Clark and Payne (1997); *Control variables*- included socio-demographic characteristics, such as employees' seniority, education, gender affiliation and work place (hybrid working, work site only). For modeling we used the Mplus V.8.3 statistical package (Muthén & Muthén, 2018).

## RESULT

The measurement model goodness-of-fit met required quality and showed an acceptable fit to the data:  $\chi^2=378.97$ ,  $df=231$ ,  $p<.001$ ; CFI=.968, TLI=.962; RMSEA=.043, 95% CI [.035,.050]; SRMR=.047 (Hu & Bentler, 1999) which provided the construct validity. Next, we tested the direct research hypotheses. The results of the structural paths providing support for H1-H4, excepting for H2b. Then, we analyzed the role of work passion as a mediator. A 95% confidence interval follows the indirect effect, which is the result of multiple resampling based on the bootstrapping technique ( $n_{repeats}=1000$ ). Complete indirect effects were found in work-family and family-work enrichment on turnover intentions (indirect=-0.07,  $p<.05$ ; indirect=-0.02,  $p<.05$ ; respectively), thus confirmed hypothesis H5a. Note that although hypothesis H2b was found to be insignificant, the indirect effect is presented beyond Baron and Kenny original requirements for mediation effects (Hayes, 2009). Regarding H5b, work passion only partial mediated effects the relationship between trusting beliefs and trusting behavior (indirect=0.03,  $p<.05$ ).

## DISCUSSION

In the context of the big resignation and the quiet quitting, this study tried to give an answer on the way utilization of resources may create a fertile ground underlining how to reduce turnover intention and increase trusting behavior. First, using COR theory (Hobfoll, 2010), we argue that WFE and trusting belief are positive resource caravan passageway that can influence an employee's ability to develop work passion. Otherwise stated, according to the SDT orientations toward behaviors are assumed to develop from social contexts person's basic needs (Deci and Ryan, 2000). In this perspective, the internalization of passion relies greatly on how personal and environmental factors enable fully or to a certain extent integration of behavior (Curran *et al.*, 2015). Second, our theorizing suggests that WFE can help employees gain resources that could decrease the likelihood of turnover intention. Since the findings about the direct relationship between WFE and turnover intention were mixed (Hammond *et al.*, 2020; Wang, 2020), this study presents a new perspective through the mediating role of work passion. Drawing on the COR theory, WFE produce positive ideal conditions which permit employees building resources that can increase their investment and passion at work and yield 'caravan passageway' (Hobfoll, 2010 2011). This dynamic reflects a gain spiral that help to predict less turnover intention. Third, the current study is the first of its kind that addresses the mediating role of work passion between trusting beliefs and trusting behavior. While people possess higher levels of resources, it would place them in a resource gain perspective (Halbesleben *et al.*, 2014). Trusting belief in manager influences an employee's ability to develop resources such as, work passion which subsequently yields trusting behavior.

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## **DEALING WITH COMPLEXITY – THE CONTRIBUTION OF PARTICIPATORY MODELLING APPROACHES TO PROBLEM-SOLVING**

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### **ABSTRACT**

There is no doubt that the world we live in is full of complexity. Some notable events that have had a major impact on global complexity since the beginning of the new millennium have been the terrorist attacks in New York and their aftermath, the global financial crisis and its impact on almost every world economy, the recent pandemic which affected millions of people in complex physical and psychological ways, and the current wars in Ukraine and the Middle East with their devastating impact and frightening prospects. Furthermore, the ongoing problems of climate change, poverty, human trafficking, illegal immigration and lack of democracy in so many parts of the world do not seem to be fading away and are far from reaching a solution. Such global challenges are in many ways interrelated and have serious social, economic, geopolitical, cultural and other implications for the whole of humanity. Governments, organisations and societies around the world often find it very hard to respond to these problematic situations, which are often described as ‘messy’ or ‘wicked’.

The decision-support discipline of operational research (OR) emerged in the period ahead of the second world war as an interdisciplinary approach to provide help in improving the strategic and tactical effectiveness of military systems. It was soon realised that the new discipline was able to provide a very powerful analytical approach to problems of increased complexity. The need to recognise the systemic nature of problems and to take a holistic approach in addressing them was implicit in the philosophy and actions of the pioneers of operational research. However, the new discipline soon appeared to take a very scientific and mathematical direction and to lose its interdisciplinary character and holistic orientation. Despite its undoubted record of success in areas such as optimisation, transportation, logistics, forecasting etc, operational research seemed to find it much harder to deal with complex problems involving multiple stakeholder groups and the existence of conflict.

In response to this inability of the traditional OR approach to deal with ill-structured and often messy situations, a range of participatory modelling approaches have been developed over the years. These are strong analytical approaches with a sound theoretical and epistemological basis but, at the same time, non-mathematical and therefore approachable to a wide range of people from different

backgrounds. Focusing primarily on how to enable the different actors to work together, these participatory modelling approaches have played an important role in addressing complex problematic situations in organisations and society.

This paper examines the contribution that participatory modelling approaches have made to problem-solving. The paper focuses on the particular characteristics that enable this domain of operational research to deal effectively with situations of high complexity. As a result, it is argued that participatory modelling approaches have expanded the entire decision-support discipline of operational research and significantly contributed to its holistic nature and problem-solving orientation.

*Keywords: Complexity, decision support, participatory modelling, problem structuring methods, operational research, problem-solving.*

# THE ROLE OF CO-CREATION OF SOCIALLY SUSTAINABLE ACTIVITIES AND USER-GENERATED CONTENT: AN EXPLORATORY STUDY INTO GENERATION Z CONSUMERS' WELL-BEING

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## ABSTRACT

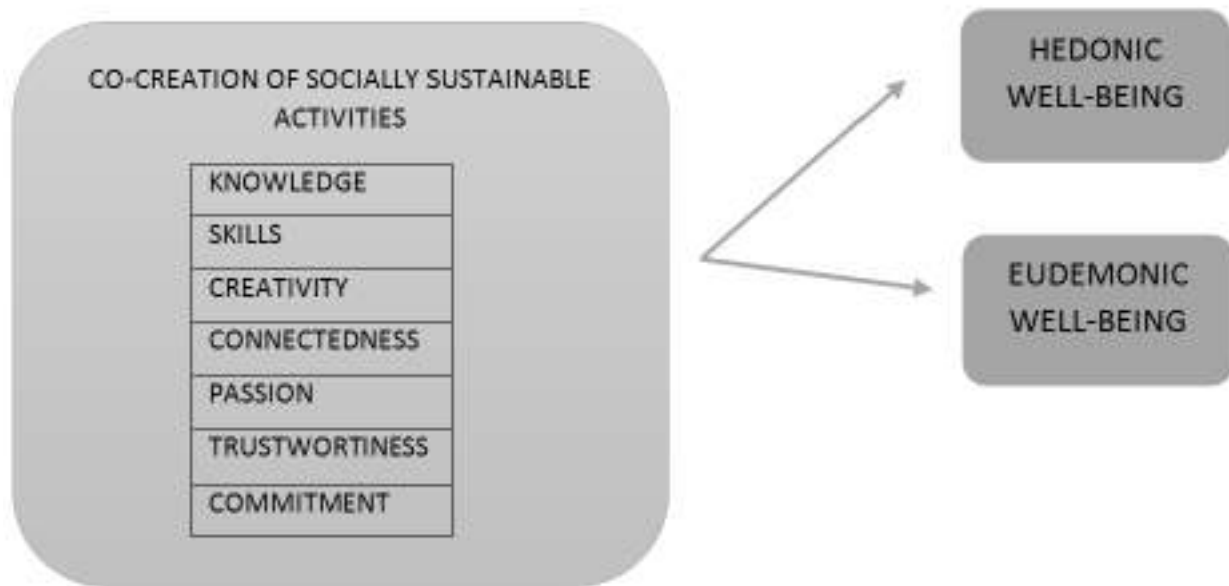
Social networks have become a great communication channel that enhances interaction, engagement, and co-creation of activities or content. Recently, Appel et al. (2020) stated that businesses invested in digital media to enhance their development and customer engagement by 70% and 80%. Rosli et al., (2018) suggest that every company should adopt an engagement marketing approach, including company-customer interaction and collaborative systems (Rosli et al., 2018). The co-creation of socially sustainable activities through volunteerism and/or donations for sustainable causes (Sohier et al., 2023) followed by user-generated content regarding these activities has the potential to enhance Gen Z consumers' well-being (Bastos, 2020). Therefore, it is suggested that volunteerism related to sustainable activities can be an important tool for companies.

The following section introduces two preliminary conceptual models that can be tested through the collection and analysis of empirical data.

### Co-creation of Socially Sustainable Activities

According to Tanvir et al. (2021), the success of sustainable activities of any company, could not be achieved without the involvement of customers through digital media and that is a point that needs further research effort. That is consistent with Trivedi et al. (2018), who stated that success is driven by the engagement of customers in sustainable actions. Sohier et al. (2023) specifically delved into the realm of volunteerism. They found that volunteering in socially sustainable activities could be of great importance to Generation Z and could strongly affect their well-being. This study showed how volunteerism linked to social activities, has the power to trigger strong emotions. The volunteers perceive themselves as 'co-producers', which subsequently, makes them feel proud, and in turn, enhances their well-being. Lee et al. (2021) attempted to expand the spectrum of participatory activities, by adding behaviors such as donating, volunteering, and more. This relationship leads to the first research question that will be empirically explored: Does co-creating socially sustainable activities such as volunteerism, donating and others affect Gen Z consumers' level of Eudemonic and Hedonic well-being? The proposed model that follows below, in Figure 1, shows this relationship.

Figure 1: Co-creation of socially sustainable activities and the relation to well-being.



CCCV Scale by Merz et al. (2018)

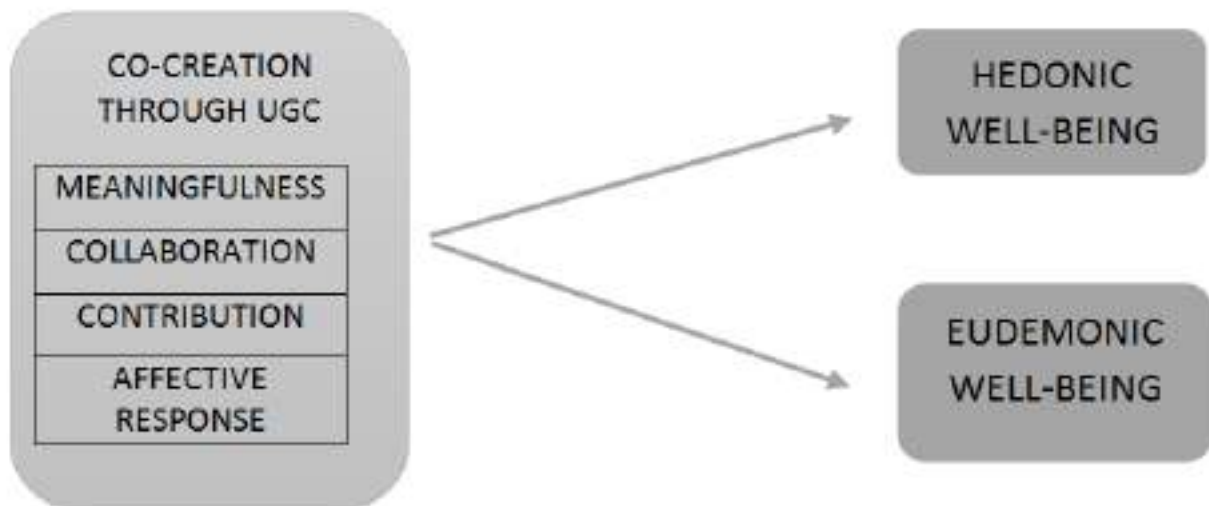
Such experiences created through sustainable activities greatly contribute to Generation Z's well-being when they share it through social media, creating a sense of joy. Bastos (2020), uncovered that consumers attain comparable levels of happiness through conversations about either material possessions or experiential encounters. When the subject matter holds a high conversational value, equivalent to the extent of discussions generated by experiences, it engenders happiness equivalent to that derived from experiences. That is why shared content has a high level of importance in this procedure.

#### User-Generated Content

Fulgoni (2015) stated that the core of social media is user-generated content. Shao and Ross (2015) reported that companies should not ignore the huge potential of social media to collaborate with their customers to generate value. User Generated Content is any kind of available content, for instance, text, videos, pictures, and snapshots "created outside of professional rules and practices" (Kaplan and Haenlein, 2010, p. 61). User-generated content is a very appreciated marketing instrument because it enhances purchase intention (Mayrhofer et al., 2020). In addition, suggestions/complaints, interactivity with other consumers, active involvement in social platforms, and co-creation, can actively contribute to client experience by developing emotions and feelings that are important (Tanvir et al., 2021), and feelings related to hedonic and eudemonic well-being should be further researched. Khan et al. (2019) proposed that sustainable initiatives are very important towards creating customer engagement, not only because consumers can participate in product development but also in a social cause. In turn, the second research question proposed in this context is: Whether co-creating value through User-

Generated Content can affect the level of Generation Z consumers' engagement which in turn enhances Eudemonic and Hedonic well-being. This research question leads to the second preliminary model presented in Figure 2.

Figure 2: Co-creation through User-generated content and the relation with well-being.



CCV Scale by Busser et al. (2018)

## IMPLICATIONS OF THE RESEARCH

The proposed conceptual models that will guide the data collection will result in research findings that will have practical implications for businesses that invest in sustainability. The study presents an itinerary for businesses to successfully convey their dedication to sustainability and involve customers in co-creative activities by demonstrating the possibilities of media in the framework of sustainability. Particularly, the first proposed model of this research will highlight the specific dimensions of co-creation of socially sustainable activities that affect Generation Z's well-being to the highest degree. That could be through promoting the level of knowledge on the firm's activities, the skills needed to participate in sustainable activities, the level of creativity that participants feel that they use in the process, the degree of connectedness with others, or dimensions that drive consumer's motivation, such as passion, trustworthiness, and commitment.

Regarding the analysis of the effect of the User-Generated Content on GenZ well-being, this study will highlight which feelings that arise from the co-creation process through UGC have the most impactful result and, by taking advantage of this information, try to stimulate it through their social media. It could be the meaningfulness of the procedure (if it is important and valuable to the users), the level of collaboration (feelings of belonging to a team and working together for a sustainable purpose),



feelings of contribution with their knowledge and skills, and finally the affective response (feelings of joy, interest, and excitement).

All above findings can show the path to organizations, how to handle their social media and stimulate socially sustainable activities or promote co-creation through User-Generated Content, to denote their identity, increase customer loyalty, and enhance their efficiency. This can be especially beneficial for brands trying to revive their target market, increase revenue, and enhance competitiveness by focusing on sustainability effectively.

*Keywords: Generation Z, well-being, co-creation, user-generated content, socially sustainable activities*

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## **SPONSORSHIP, BRAND EQUITY AND SMES: A QUANTITATIVE STUDY**

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### **ABSTRACT**

#### **INTRODUCTION- AIM OF RESEARCH**

In the dynamic business landscape, characterized by a growing saturation of advertisements, companies, particularly small and medium-sized enterprises (SMEs), are compelled to explore alternative and more efficient methods of engaging with customers. This has transformed conventional marketing tools into a more efficient means of communication. Sports sponsorship may be seen as a strategic business-to-business (B2B) partnership between a sponsoring firm and a sports organization or athlete, with the aim of benefiting both parties (Farrelly & Quester, 2005). Companies participate in sponsorship activities to fulfil several aims, including fostering relationships, providing leisure for stakeholders, seeking alternative business prospects, and enhancing brand value (Funk et al., 2016). Although activities are sponsored by organizations of all sizes, the majority of academic research has concentrated on the endeavors of bigger organizations. Thus far, a significant proportion of research has overlooked the influence of sponsorship on brand equity of smaller businesses. The present research explores the impact of sport sponsorship antecedent factors on the brand equity of small and medium-sized businesses, and its subsequent effect on supporters' purchase and word of mouth behaviors.

#### **THEORETICAL BACKGROUND**

Involvement in sport is a valuable notion for comprehending the behaviors and attitudes of sports fans, and it has been connected with the degree of pleasure derived from a specific event. In the context of sports marketing, it has been shown that involvement with sports considerably affects the desire to acquire sponsors' products. In addition, empirical research shows that engagement modulates the connection among user-generated content and brand perceptions (Inoue et al., 2021).

The degree of congruence among the sponsoring firm and sports team can be delineated as the apparent resemblance between the image of the team brand and the sponsoring brand, as viewed by the supporters. Congruence fosters lucidity in the thoughts of supporters and improves their recall (Pradhan et al., 2020). Sponsor-brands that exhibit a high level of congruence with the club seem less bothersome and more readily accepted.

A sponsored team's success or failure may serve as the distinguishing characteristic by which audiences assess the brand and the club itself, given that "a fundamental principle of sports is that there are victorious and defeated" (Crompton, 2015, p. 27). Moreover, as Crompton (2015) argues, loss may be associated with failure and inferiority, which can have a detrimental impact on how viewers perceive the sponsored brand's dependability and competence. Additionally, customers' trust in a brand is influenced by their perception of the brand's dependability and competency (Chaudhuri and Holbrook, 2001). Hence, when individuals are exposed to the stimulus of a sponsored team's unsuccessful outcomes, it will have an adverse impact on the level of faith the audience places in the brand that sponsors the club.

According to Farquhar (1989, p. 7), brand equity refers to the extra value a certain brand brings to a commodity. Farquhar also argues that brand equity enables an item to be priced at a premium. Brand equity may be defined along four dimensions—awareness, associations, perceived quality, and loyalty— as proposed by Aaker (1991), who was the first to acknowledge the connection between consumers' ideas and perceptions and brand equity. Brand awareness pertains to a consumer's capacity to identify and acknowledge a brand, whereas brand loyalty includes any connections stored in memory that are associated with the brand (Aaker, 1991). Perceived quality refers to a consumer's subjective evaluation of the overall quality of a product or service, whereas brand loyalty indicates the likelihood of a customer switching to a different brand.

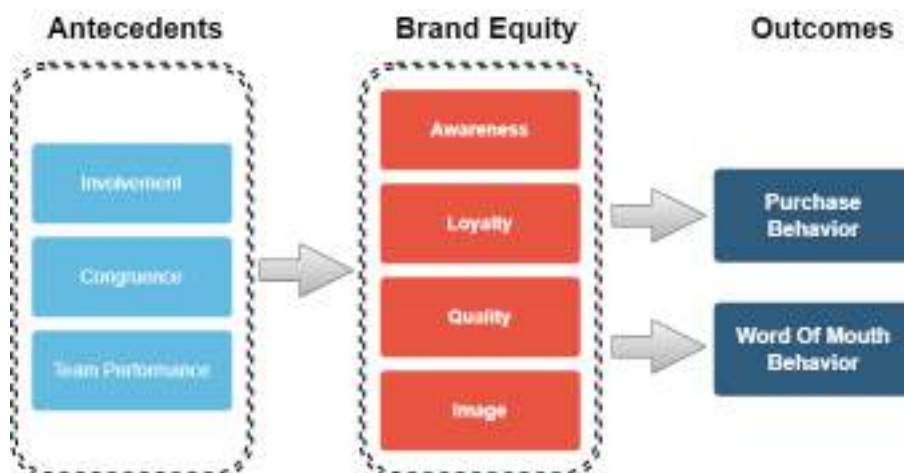


Figure 1. Proposed model

H1: Sport Involvement is expected to affect SME's brand equity.

H2: Congruence is expected to affect SME's brand equity.

H3: Team performance is expected to affect SME's brand equity.

H4,5: Brand equity of the sponsor is expected to affect spectators' purchase and word of mouth behavior.

## METHODOLOGY, RESEARCH DESIGN AND DATA ANALYSIS

For the aim of the study, a quantitative methodology was employed, and online surveys were gathered from spectators attending Greek Division A and Division B football matches during the 2022-23 season. A total of 5,389 questionnaires were successfully completed and analyzed by SPSS and AMOS

## RESULTS, DISCUSSION AND IMPLICATIONS/CONCLUSIONS

The hypothesized relationships of the model were analyzed via the use of Structural Equation Modeling (SEM). Explanatory Factor Analysis provided evidence of a robust Kaiser-Meyer-Olkin (KMO) index exceeding 0.8 for all scales, indicating their suitability for constructing more refined research inquiries or hypotheses to facilitate detailed investigation. The variance explained by factors across the 9 variables ranged notably from 16.3% to 90.4%, underscoring the substantial influence of the constructs under study. Moreover, Confirmatory Factor Analysis yielded favorable fit indices, with normed  $\chi^2$  values below 1, RMSEA values under 0.1, and NFI values exceeding 0.95, alongside CFI values surpassing 0.9 for all scales, signifying the robustness of the measurement model. Of particular significance was the observed strong correlation between team performance and purchase behavior (0.801), underscoring the interrelationship between these constructs within the model. Furthermore, correlations among the remaining variables ranged from (0.229) to (0.614), reflecting varying degrees of association among the constructs. Finally, the findings from the SEM provided substantial support for all proposed hypotheses (H<sub>1</sub>-H<sub>5</sub>), thereby reinforcing the theoretical framework underpinning the study and offering insights into the dynamics of the relationships among the variables examined.

Table 1: Structural Equation Model Weights

| Affect |                   |  |                 | Estimation | P     | S.E   | Results |
|--------|-------------------|--|-----------------|------------|-------|-------|---------|
| H1     | Sport Involvement |  | Brand Awareness | 0.775      | ***   | 0.169 | S       |
|        |                   |  | Brand Loyalty   | 0.848      | ***   | 0.101 | S       |
|        |                   |  | Brand Quality   | 0.762      | ***   | 0.152 | S       |
|        |                   |  | Brand Image     | 0.514      | <.005 | 0.088 | R       |
| H2     | Congruence        |  | Brand Awareness | 0.551      | <.005 | 0.018 | R       |
|        |                   |  | Brand Loyalty   | 0.213      | <.005 | 0.003 | R       |
|        |                   |  | Brand Quality   | 0.683      | <.005 | 0.007 | R       |
|        |                   |  | Brand Image     | 0.904      | ***   | 0.195 | S       |
| H3     | Team Performance  |  | Brand Awareness | 0.759      | ***   | 0.114 | S       |

|    |              |  |                        |       |       |       |   |
|----|--------------|--|------------------------|-------|-------|-------|---|
|    |              |  | Brand Loyalty          | 0.831 | ***   | 0.184 | S |
|    |              |  | Brand Quality          | 0.471 | <.005 | 0.019 | R |
|    |              |  | Brand Image            | 0.163 | <.005 | 0.031 | R |
| H4 | Brand Equity |  | Purchase Behavior      | 0.824 | ***   | 0.110 | S |
| H5 | Brand Equity |  | Word of Mouth Behavior | 0.894 | ***   | 0.148 | S |

S=Supported, R=Rejected, SE=Standard Error, NFI = .951, CFI = .917, SRMR = .032, RMSEA = .047.

*Keywords: sponsorship, brand equity, SMEs*

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## ENHANCING TOURISM THROUGH METAVERSE AND AI: A SHIFT TOWARDS DIGITAL CUSTOMER CENTRIC EXPERIENCES

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### ABSTRACT

The tourism sector is under an unparalleled shift that is transforming the traditional tourism business models, the tourism destination marketing and management, and also the visitor experience and engagement, inevitably leading tourism towards a more technology-enabled perspective (Leung, 2020; Neuhofer and Buhalis, 2012; Buhalis and Matloka, 2013; McKenna *et al.*, 2018; Serravalle *et al.*, 2019; Hadjielias *et al.*, 2022; Vrontis *et al.*, 2022). This study proposes the need to further explore this shift and evolution from the traditional tourism practices to the more innovative and technology oriented approaches, with a particular focus on how the metaverse and the artificial intelligence (AI) can be used to enhance tourism customer experience into destinations.

Aim of this study is to provide an analysis on the current condition and the future possibilities that these technologies create in enhancing tourism, focusing on the creation of more customer centric tourism experiences with the aid of technology. Within this framework, a historical review of the evolution of tourism and the gradual change towards digitalisation and technology enhanced experiences will be conducted, highlighting the need to understand the changes for the tourism sector in the current rapidly evolving digital age.

This study will use the integrative literature review methodology to explore relevant studies from various databases and broader sources (Whittemore & Knafl, 2005), delivering fresh perspectives and condensed information (Lubbe *et al.*, 2020). The selected methodology will result in the improved analysis of the study's research question, that is: How the metaverse and AI transform the experiential landscape of tourism destinations?

The expected outcomes of this study are to reach a comprehensive understanding of how the new digital technologies or metaverse and AI will transform the tourism industry, providing insights into the changing customer preferences and their potential impact on destinations. Additionally, will be further explored the evolution of the technology-enabled customer centric tourism experiences.

The anticipated contribution of this research to the field is to shed light on the different parameters of the consumer behaviour and preferences that are changing due to the new immersive digital

technologies, informing this way the travelers' engagement approaches and the related destination management strategies.

The study's outcomes could provide valuable perspectives for tourism professionals to gain insights into the way the modern tourists perceive and interact with the technology-enabled experiences. This could assist them design future tourism services and products that will better meet the customers' preferences and expectations, enhancing the tourist experience and as well create new revenue streams. For tourism policymakers this study could be helpful in developing policies towards a successful integration of technology into the tourism and hospitality sector, in a sustainable and responsible way that will balance innovation with environmental, cultural, social and heritage preservation.

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## ECONOMIC THREATS AND ACCEPTANCE OF NEWCOMERS IN EUROPEAN SOCIETY

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### ABSTRACT

Europe has been experiencing waves of immigration over the past years. Almost 3.4 million first permits to reside were granted in the EU in 2022 as opposed to 2.9 million in 2021; this is more than the 3.0 million permits that were granted in 2019 before the COVID-19 pandemic. In 2023, 8.5% of all EU inhabitants were born outside the EU (European Commission, 2023).

Willingness to receive immigrants has been widely discussed in recent years, as threats about its effects on the economy and culture have fueled a reaction against globalization (Brader, Valentino and Suhay, 2008). Numerous studies have investigated associations between threats and attitudes toward immigrants in Europe, but most of them evaluated immigrants as a generic category, not distinguishing them by ethnicity or religion. Using a general category of immigrants can be problematic as people may have diverse perceptions of various immigrant groups (Blinder, 2015). Recent research reveals that attitudes towards immigrants in Europe vary by ethnic or religious origin, with more negative attitudes towards ethnic minorities, particularly Muslims (Gorodzeisky and Semyonov, 2009; Ben-Nun Bloom et al., 2015; Hellwig and Sinno, 2017).

This study examined how the income of native and foreign-born residents of EU countries and the discrimination they experienced shaped their willingness to accept newcomers in the EU, and whether their effects were mediated by feelings of economic and cultural threats posed by newcomers. The willingness to accept newcomers was investigated among three groups of EU residents: native-born residents, immigrants from non-EU countries already living in the EU, and immigrants from one EU country who moved to another EU country. The study investigated whether immigrants themselves felt threatened by other immigrants, whether they were likely to receive newcomers, and whether their origin and the origin of newcomers mattered.

The study used data from the European Social Survey Round 10 Data (2020). This is an academic cross-national survey conducted in European countries; the 10<sup>th</sup> round covered 31 countries. For this study, only respondents 18 – 65 years old living in the EU were chosen. Of the respondents, 19,862 were native-born in the countries they lived in at the time of the survey, 1,136 were immigrants from



non-EU countries (hereafter, non-EU immigrants), and 409 were immigrants from EU countries (born in one EU country and living in another, hereafter EU immigrants).

The study found that income predicted both economic and cultural threats from immigrants reported by the native-born population, and also their willingness to accept newcomers. High income was associated with a higher willingness to accept. This relationship was mediated by economic and cultural threats from immigrants: the higher the income was, the lower reported levels of threats were, and the more likely native-born people were to accept newcomers of different ethnicity or the same ethnicity. However, the feeling of being discriminated against did not matter for the native-born population in predicting their willingness to accept newcomers.

For non-EU immigrants, the situation was the opposite: income did not predict their willingness to accept newcomers, but feelings of being discriminated against did. Those who felt discriminated against were more willing to accept newcomers. Threats mediated this relationship: the feeling of being discriminated against was associated with lower levels of threats, and lower threats, in turn, were associated with a higher acceptance of newcomers of either different ethnicities or the same ethnicity. One possible explanation is that experiencing discrimination can encourage people to look for solidarity and assistance from others experiencing similar challenges. It seems that the feeling of solidarity with newcomers and welcoming them prevailed over potential competition with newcomers.

*Keywords: Economic threat, Cultural threat, Income, Discrimination, Acceptance of immigrants*

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## EXPLORING ACADEMIC AND CULTURAL CHALLENGES FACED BY INDIAN POSTGRADUATE STUDENTS STUDYING IN THE UK

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### ABSTRACT

Globalisation in higher education has significantly increased the number of postgraduate students from different countries pursuing their studies abroad. According to data published by HESA, UCAS, the Home Office and ONS. In the UK, there has been an almost 89% increase in Indian students attending postgraduate programs, with nearly 118,000 students only in 2023. This growth can be attributed to the internationalisation of higher education and the opportunities created by Brexit, which has made it easier for students worldwide to study in the UK. To cope with the competition by globalisation, UK higher education institutions devote substantial resources to training employees on communicating and interacting effectively with those from other cultures. Hence, student academic challenges, life experiences, racial discrimination, and difficulties in adopting an inclusive learning experience, and the services provided by academic tutors, administrators, and the International Student Office (ISO) have remained unexplored (Mok *et al.*, 2021; Ammigan and Jones, 2018; Ahmad and Shah, 2018). Indeed, there is limited evaluation or regulation of existing policies in UK higher education institutions concerning staff engagement and appropriate training provisions for coping with this increasing international cohort of students. Similarly, while support and resources are provided to international students to facilitate their learning, important information on the challenges they experience during their academic journey is lacking.

**Scope of the Study:** The main focus of this study is to investigate how postgraduate Indian students at one of the largest Business Schools in Yorkshire, UK, efficiently manage the process and practice of academic cultural shift within the classroom and how this shift positively affects their academic performance. Understanding these students' challenges is crucial for fostering an inclusive and supportive learning environment. This research seeks to enhance educational experiences and outcomes for PG Indian students, thereby promoting diversity and enriching the academic community.

**Theoretical Framework:** This study is grounded in a robust theoretical framework incorporating two key models. It aims to elucidate the academic and cultural challenges encountered by postgraduate (PG) Indian students at Leeds Business School (LBS). Firstly, the Zone of Proximal Development

(ZPD) model, as proposed by Vygotsky (1978), serves as a cornerstone of this research. The ZPD model emphasises providing appropriate support to learners, enabling them to engage in tasks slightly beyond their current capabilities with assistance from peers or educators. This scaffolding process facilitates academic independence and growth, highlighting the significance of social interaction, cultural influences, and language in shaping students' learning experiences and outcomes. Secondly, the study integrates the Expectancy-Disconfirmation Paradigm (EDP) and the SERVQUAL model (Oliver, 1980; Anderson, 1973) to assess student satisfaction among PG Indian students at LBS. The EDP, rooted in consumer behaviour research, evaluates students' perceptions and expectations regarding university services and teaching and learning experiences. The SERVQUAL model, developed by Parasuraman *et al.* (1985), measures service quality within higher education institutions across various dimensions. By applying these models, the study aims to identify service quality dimensions, assess students' overall satisfaction levels, and examine the impact of satisfaction on future recommendations and academic outcomes.

**Methodology:** Non-native English-speaking international students pursued a postgraduate degree in the UK. Unpacking their worlds can benefit prospective international students by navigating their experiences while studying in UK HE institutions. A mixed-method approach has been employed, consisting of a quantitative survey and qualitative interviews. The survey gathered data from PG Indian students at LBS, focusing on their academic experiences and satisfaction levels. Qualitative interviews further explored the challenges identified in the study and provided insights into these students' lived experiences. A purposive sampling strategy consisting of a smaller sample of students, course directors, and international office staff has ensured diversity and experiences. Quantitative data were analysed descriptively and statistically, while qualitative data underwent thematic analysis, identifying key themes and patterns in students' experiences and challenges while studying and living in the UK.

**Key Challenges:** This is still a work in progress. Preliminary findings generated from the questionnaire and semi-structured interviews revealed that postgraduate Indian students face various challenges, including academic expectations, cultural adjustment, social integration, and institutional support. Language barriers and a lack of preparation in their educational backgrounds can also make it challenging for international students to adjust to life in the UK. Qualitative interviews also provided rich insights into these students' lived experiences, shedding light on the specific factors contributing to their challenges and identifying areas for improvement in support services for international students studying in the UK.

**Contributions:** This research contributes to the existing literature on international student experiences by offering insights specific to PG Indian students studying at Higher Education Institutions in the UK. By employing a mixed-method approach and drawing on relevant theoretical frameworks, the study provides valuable insights for improving support mechanisms and enhancing the overall academic experience of international students. By identifying key challenges and potential areas for improvement, the study informs the development of targeted support initiatives and institutional policies to enhance international students' academic success and cultural integration. Ultimately, this research's findings have the potential to benefit not only PG Indian students but also the broader international student community and higher education institutions striving for inclusivity and excellence.

*Keywords: Postgraduate Indian students; Academic challenges; Cultural adjustment; Higher education institutions; Internationalisation; Support services; Mixed-method approach; Zone of Proximal Development (ZPD); Expectancy-Disconfirmation Paradigm (EDP); SERVQUAL model.*

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## GREEK NURSING HOMES IN TURBULENCE: THE INTERPLAY OF SUSTAINABILITY, RESILIENCE, AND IMPACT

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### ABSTRACT

This study aims to explore the association between sustainability, resilience, and social impact within the context of nursing homes in Greece. Considering the sector's complexity, especially post-COVID-19, this research addresses a significant gap in the healthcare management literature, focusing on how these entities can establish themselves as sustainable, resilient, and socially impactful organizations. Although there is an increasing interest on sustainability and resilience issues, little is known on how sustainability and organizational resilience are associated with the overall social impact of healthcare organizations. Our study draws on a sample of nursing homes in Greece, considering that this sector is not well-understood.

Employing a mixed-methods approach, this research utilizes Partial Least Squares Structural Equation Modeling (PLS-SEM) and fuzzy-set Qualitative Comparative Analysis (fsQCA) to analyze data from these institutions. These methods will enable us to test hypotheses concerning the relationships among sustainability, resilience, and social impact, and to identify configurations of factors that lead to optimal social outcomes.

In this healthcare system, the long-term care of the continuously growing senior citizens involves the public, private, and third sectors. This ownership and funding segmentation, calls for a thorough research on the paths through which nursing homes establish themselves as sustainable, resilient, and socially rewarding organizations, in an ex-post facto discussion of the COVID-19 pandemic effects.

Sustainable Human Resources Management (HRM) practices are essential for integrating sustainability into a social enterprise by ensuring that human resource policies and practices support long-term environmental, social, and economic advantages. Ethical leadership that is part of HRM practices drives sustainability by guiding SEs with moral convictions and honesty. Research also

indicates that transformative and democratic leadership can boost an organization's innovation efforts and commitment to sustainability goals (Wang et al., 2021). Gender diversity in senior management teams can also lead to a variety of viewpoints and strategies to tackle sustainability issues. Additionally, collaborative networks with stakeholders (i.e., social capital) often help SEs to exchange resources, information, and best practices enhancing their sustainability efforts. These networks are vital for them, as they often have limited resources (Feeney et al., 2022).

Resilience refers to an organization's ability to predict, be ready for, deal with, and bounce back from disturbances to keep functioning, protect stakeholders, and take advantage of chances for development and enhancement (Linnenluecke, 2017). Resilience is essential for SEs to maintain competitiveness and profitability notwithstanding market instability and upheavals. These SEs depend on a strategic combination of risk management, innovation, and agility to adjust to changes, guaranteeing long-term viability (Thomas et al., 2015).

Studying nursing homes in Greece, offers a unique research setting. Nursing homes, as essential healthcare facilities, have specific difficulties like regulatory demands, and budgetary limitations. SEs in unstable institutional settings, like those in Greece are often resource-constrained. The Resource-Based View (RBV) paradigm (Barney, 2001) discusses how SEs use their resources to generate social impact and achieve a competitive advantage (Mamabolo & Myres, 2019). This approach is particularly applicable to SEs, emphasizing the significance of internal resources such as human capital in fostering the production of social value. To maintain patient safety and organizational sustainability, measures such as using local networks, adopting flexible operational techniques, and promoting a culture of continuous learning and adaptation may be used (Senbeto, 2020). Fostering resilience for social enterprises is essential and can be achieved through enhanced supply chain security and innovation (Voss & Williams, 2013), potentially leading to an increased social impact.

We conceptually argue that sustainability, developed through sustainable HRM practices, ethical leadership, and collaborative networks, is instrumental in fostering organizational resilience, which in turn, is a key determinant of the SE's social impact within the healthcare sector. Indeed, sustainable HRM practices are crucial for SEs to enhance their endurance and adaptability. These practices improve human capital, which directly affects the quality of elderly care and the societal impact of these institutions. Emphasizing ethical leadership and diversity in top management teams is crucial for fostering a culture of integrity and inclusiveness within organizations (Wang et al., 2021). Collaborative networks with stakeholders enhance organizations' resilience by combining knowledge,

resources, and support, which is especially important for SEs in challenging environments. In nursing homes, social capital fosters the exchange of best practices and innovations, enhancing the ability to provide consistent care during crises (Negri et al., 2021). We argue that resilient and sustainable practices are crucial for the economic and social sustainability of nursing homes, where social performance is linked to community welfare (Pinheiro et al., 2021).

We anticipate our findings will demonstrate how sustainable HRM practices, ethical and transformative leadership, and collaborative networks enhance the resilience and social impact of nursing homes. We expect to reveal the critical factors and configurations that effectively integrate sustainability into operational practices, promoting long-term environmental, social, and economic benefits.

The originality of this study lies in its focus on nursing homes in Greece, a sector not well understood in terms of its sustainability and resilience strategies. By examining these institutions within the unique context of Greece's healthcare system and its segmentation across public, private, and third sectors, our research provides new insights into creating sustainable and resilient enterprises. This research will contribute to theoretical frameworks by linking sustainability and resilience to social impact in a sector influenced by economic and regulatory challenges. Practically, it will provide insights into effective strategies for nursing homes to manage resources, adapt to changes, and ensure high-quality care through sustainable practices.

*Keywords: social enterprises, nursing homes, impact, Greece*

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## **THE CHALLENGES OF WOMEN IMMIGRANT WORKER: A PROPOSAL BY ENTREPRENEURSHIP WITH ITS MOTIVATION AND CHALLENGES**

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### **ABSTRACT**

Although the number of studies addressing the entrepreneurial phenomenon have increased in recent years (Agy, 2019), no research to our knowledge, have focused on the entrepreneurial process by combining motivations, challenges, and obstacles according to gender and cultural origin.

Studies on the entrepreneurship of immigrants are interested in the cultural resources of the ethnic group to which the entrepreneurs belong, the socio-economic environment in which they operate (Sall and Wade, 2014), the motivational factors for entrepreneurship among immigrants (Cobbinah and Chinyamurindi, 2018) and the obstacles (exclusions, adaptation criteria, etc.) encountered (Griffin-El and Olabisi, 2018). Cultural, ethnic, and religious diversity is a major challenge for socio-professional integration (Karimi, 2018). According to several studies, the difficulties of socio-professional integration (employment) of immigrants in Quebec, Canada are mainly associated with language barriers, the non-recognition of prior learning and skills, the discriminatory practices, as well as the lack of social networks (Aaltonen and Akola, 2012). These challenges, often combined with social disadvantage (Allali, 2010), encourage immigrants to lean towards an entrepreneurial career. As Song-Naba (2015) points out, faced with the various discriminations experienced in the host country, creating one's own business often proves to be the best alternative for economic and social integration for the immigrant.

This research is in partnership with "Le Collectif", a non-profit organization helping immigrants in Quebec, Canada and funded by Mitacs Acceleration. This survey tried to identify the difficulties encountered by women entrepreneurs according to their origin (Canadian or foreign native) with the aim of facilitating the accompaniment and support services specific to their professional project and situation.

This research favored an empirical-inductive approach and uses a qualitative methodology to be able to make connections between the research objectives and the interviews conducted in the field (Thomas, 2006). Data collection was carried out in the field with women entrepreneurs who had created their business. In-depth interviews were conducted lasting from 1h30 to 2h, allowing rich and

rather developed discussions. An interview guide with mostly open-ended questions was used to allow the entrepreneur to freely tell us about her journey. The research team had to frame the discussion in order to bring out the motivations and the obstacles (challenges and constraints) encountered by the entrepreneur during the process of developing her business project. In addition, the interview guide included four (4) grids containing statements taken from the literature review: 1. motivations; 2. the importance given to perceived benefits; 3. the importance of the disadvantages and 4. their perception of their level of satisfaction with life in general as an entrepreneur. The grids use a Linkert scale of 5 (5 being very important to 1 not important and 0 not applicable) in order to identify the nuances according to each person's perception. Following recognized methodological standards (Patton, 2002), the interviews were recorded, transcribed, and anonymized in the following days.

The sample of entrepreneurs interviewed is made up of 20 immigrant women entrepreneurs (of different cultural backgrounds) and 12 native (Quebec) women entrepreneurs. Recruitment has been done through the networks of researchers, or during networking activities (immigration fair, 2022) and found on the pages of groups of entrepreneurs (Montreal Chamber of Commerce, etc.). All interviews are anonymized with the code for "Female Entrepreneur Immigrant" (FEI) and "Female Entrepreneur Native" (FEN)" followed by an alphabetical letter and the initials of the researcher or assistant that conducted the interview. For example, the first Female Entrepreneur Immigrant with principal searcher initial NL is code FEIaNL, and the second one from same searcher is FEIbNL, etc. The sample of 32 women entrepreneurs will be presented at the conference.

The results were analyzed considering the categories for the analysis with NVivo and the comparison of the 32 perception evaluation grids. The analysis of the verbatim took into account the keywords of the categories and the results of the searches were compared between the 32 interviews and then between the two groups of women entrepreneurs (FEI or FEN).

The analysis of the results makes it possible to highlight the motivations, challenges, and obstacles of women entrepreneurs. The analysis highlights the motivations : the confidence of being able to succeed in one's business project and having enough knowledge and skills, having a social mission, the desire not to have a boss or to gain more flexibility in one's schedule or work and finally, to earn a better income. The difficulties that emerge from the data analysis are related to the business or family network, the work-family balance, the complexity of the administrative framework in Quebec and are caused by some forms of discrimination. Finally, one of the main challenges put forward is: How to get started / navigate the entrepreneurial ecosystem?

*Keywords: Entrepreneur, Women, Immigrant, Motivation, Challenge*

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## DIGITAL TRANSFORMATION IN FOREST SERVICE OF GREECE

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### ABSTRACT

The main purpose of this research to investigate the digital transformation of the Forestry Service in Greece by the human resources, as well as to highlight the importance of forest digital transformation and the utilization of information and communication technologies (ICT) for more efficient service provision and change in organisational culture, while investigating the existing digital systems and forest applications used by the Forest Service. This research was based on a specially structured questionnaire completed by 232 Forestry Service officers from all regions of Greece, representing 20% of the total population, during the period from May 2023 to February 2024. The survey showed that a significant percentage of Forest Service executives were not yet aware of the concept and purposes of digital transformation, despite the country having implemented a national strategy for digital transformation. It was observed that modern digital technology has been adopted to a small extent and will require support from the government. By adopting and implementing digital transformation and smart forestry in the Forestry Service of Greece, a new more effective culture will be developed improving collaborations, social inclusion, and government accountability. Additionally, this will enable real-time monitoring of the forest environment, particularly in terms of fire accident monitoring and logging monitoring. Finally, it was found that the marketing of forest ecosystem services contributes positively to highlighting the recreational role of forests. This research is expected to improve the Forestry Service, by using digital transformation tools to emphasize its multifunctional role in the new digital era. The originality of this research lies in its being conducted for the first time in Greece, and possibly being unique in the European Union for the effective implementation of digital transformation in the Forestry Service.

*Keywords: Digital Transformation, Forest Service, Smart Forestry, Forest Apps, Organisational Culture.*

## **AUTHENTIC PRIDE AND MUSEUM APPEAL: A POTENT MIX FOR BOOSTING SUGGESTIONS**

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### **ABSTRACT**

### **INTRODUCTION**

The journey of a visitor is a fluid process that encompasses experiences before, during, and after the visit (Falk and Dierking, 1992; Sheng and Chen, 2012). A museum is also a journey for a visitor and can confer a kind of cool factor. Warren and Campbell (2014) identified key characteristics of 'cool' things or ideas that are widely agreed upon in literature. Firstly, coolness is a social construct, as objects and individuals are only deemed cool if perceived as such by others. Secondly, coolness is subjective and dynamic. The perception of what is cool can evolve and vary from one consumer to another, although those with similar interests often concur on what they find cool (Leland, 2004). The third characteristic, which is quite intuitive, is that cool is seen as a positive attribute. Warren et al. (2019) associated the concept of coolness with brands. They suggested that certain brands (a museum can be viewed as a brand) gain advantages from being cool, but the traits that differentiate cool brands from uncool ones have not been pinpointed by previous research. As a result, Warren et al. (2019) created a metric for brand coolness to distinguish between cool and uncool brands, revealing ten themes related to cool brands, including usefulness/extraordinariness; aesthetic appeal; energy; high status; originality; authenticity; rebelliousness; subcultural; iconic, and popularity. Loureiro (2019) contributed to the comprehensive understanding of the concept of perceived authenticity and its connection to notions like authentic pride. Loureiro (2019) proposed that visitors who perceive a museum exhibition as authentic are more likely to feel a sense of pride during their visit. After conducting a survey at the National Museum of Ancient Art in Lisbon, Portugal, Loureiro (2019) asserted that authentic pride is more closely linked to perceived authenticity than to self-expression via word-of-mouth. Visitors experience a sense of self-value when they perceive a museum as authentic. In the context of museums, one of the strategies a brand can employ to convey its authenticity is through corporate museums. These museums are recognized for aiding organizations in preserving their brand identity and image, typically focusing on the company's history, historical photos, documents, and products (Carù et al., 2017). When effectively managed, corporate museums can amplify the brand's heritage and tradition, thereby enhancing the brand's overall value. Carù et al. (2017) thus claimed that a corporate museum can play a pivotal role in fostering a strong bond between the brand and the visitor. As per Holbrook and Gardner (1993) and Antón et al. (2018),

recommending a museum following a visit can be equated to content generation, which involves visitors sharing their experiences with others in the digital realm. To this end, they can post reviews and comments on social media and travel websites, which are deemed trustworthy by others (Presi, et al., 2013; Antón et al., 2018).

Regarding recommendation, another dominant concept is word-of-mouth (WOM), which is the information shared by past consumers with potential consumers, based on their past experiences (Wang *et al.*, 2016). WOM is a powerful tool for purchase decisions because it consists of information communicated by people who are considered trustworthy (Wang *et al.*, 2016; Day, 1971) rather than being communicated from the brand itself. Nowadays traditional WOM has gained the electronic element which can constitute an influential social interaction and can have very wide dissemination (King *et al.*, 2014). Therefore, we suggest that both museum coolness (H1) and authentic pride (H2) enhance the recommendation of the museum.

## METHODOLOGY

A survey was prepared to get data to test the hypotheses. Before launching the questionnaire, a pretest was performed with the help of 10 past visitors to analyze the content validity and guarantee that the questions were understood by the respondents. Only a few adjustments were made.

We spread the survey to four selected museums. The National Coach Museum and the MAAT are located in the same area in Lisbon, Belém. The Orient Museum is also located in the city center, in Avenida Brasília, Alcântara. The farthest museum is the National Tile Museum, located in Xabregas.

Before starting, participants were informed that the questionnaire was completely anonymous, and it would only be used for academic purposes. Participants were asked to specify their level of agreement with each item on a 7-point Likert scale (1 [strongly disagree] to 7 [strongly agree]).

A final sample of 308 participants remained for the final analysis, representing a usable response rate of 90%. The sample was well-balanced in terms of gender. Regarding age, most of the respondents belong to the 18-24 age group (35.7%), 57.5% of the respondents are between 18 and 34 years old, which represents more than half of the total respondents. The age group with less weight is composed of participants with more than 65 years old (2.9%). Bachelor's Degree (46.4%), whereas few respondents have a Professional Course (1.3%) or a Doctorate Degree (2.9%).

## RESULTS AND IMPLICATIONS

Considering the multivariate analysis, the results support H1 and H2.

$$\text{Intention to Recommend} = 1.055 + 0.435 * \text{Museum Coolness} + 0.304 * \text{Authentic Pride} + \Sigma$$

(t=3.316) (t=5.064) (t=4.783)

$R^2 = 33.4\%$ ,  $VIF < 3.33$ , so there is no multicollinearity.

Data allow us to claim that when visitors consider a museum as being useful, valuable, and helpful for visitors, they are more prone to recommend the museum to others. From the diverse characteristics of coolness, useful is the one that influences more deeply they recommend. This implies that when museum visitors consider the museum valuable, extraordinary, and helpful, they are more willing to revisit it.

Achievement and meaningfulness, two facets of authentic pride, affect positively the recommendation. Thus, when museum visitors feel successful, accomplished, as well as confident, and useful, the likelihood they will recommend the visit to that museum is higher. This is aligned with Loureiro's (2019) claim that the feeling of authentic pride is a predictor of word-of-mouth and, thus, of recommendation intention.

Managers should develop interactive quizzes and games throughout the exhibitions so that visitors augment their feeling of success and self-worth by responding to challenging questions. The second suggestion relates also to technological implementations. It would be beneficial for the managers to develop an online app where the games could be continued, with different levels, and containing curiosities about the exhibitions displayed in the museum. Thus, the proposed activities would allow practitioners to stimulate visitors into being more engaged with the museum, its progress, and its exhibitions.

Further research can claim: Will Portuguese museums survive the economic crisis caused by the pandemic? Will people be more prone to visit museums and more enthusiastic regarding cultural attractions? Future research could answer some of the questions that, for now, are unanswered.

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*Keywords: authentic pride, Museum, virtual reality*

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# GROWTH HACKING FOR SMES RESILIENCE AND INTERNATIONALIZATION: EXPLORING STRATEGIES, IMPACTS, AND OPPORTUNITIES FOR ACCELERATED GROWTH

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## ABSTRACT

Small and medium-sized enterprises (SMEs) play a significant role in the global economy, contributing to job creation, innovation, and economic growth (European Commission, 2023; Jean et al., 2024). International expansion has emerged as a crucial strategy for SMEs to capitalize on global market opportunities and address increasing competitiveness (Hutchinson et al., 2009). A study conducted by the European Commission (2010), analyzing data from 2007 and 2008, found that SMEs engaged in international activities experienced higher turnover growth (over 50%) compared to those that did not (around 33%). Internationally active SMEs also exhibited greater employment growth, with exporters and importers reporting higher rates than non-exporters and non-importers. Furthermore, SMEs demonstrated a strong correlation between internationalization and innovation, successfully launching new products/services and implementing process innovations more than their counterparts. Moreover, the recent literature points to the positive relationship between internationalization and resilience (Martins et al., 2022; Wang et al., 2024).

However, international expansion presents complex challenges for SMEs, as they must navigate factors such as cultural, regulatory, and market differences, manage limited financial and human resources, and adapt their business strategies to international contexts (Braitto et al., 2021; Paul et al., 2017). In this regard, the combination of digitization and internationalization has proven highly effective in overcoming some of these barriers and facilitating global growth for SMEs (Jafari-Sadeghi et al., 2021a, 2021b, 2020). Digital technologies enable SMEs to overcome geographical constraints, expand their customer base, and improve operational efficiency (Gawel et al., 2023; Kolagar et al., 2021). Additionally, implementing growth strategies can stimulate innovation in SMEs' business models, further enhancing their competitive edge in the global market (Matarazzo et al., 2020).

One strategy that has proven effective for managers is the adoption of growth hacking (GH) strategies, which are crucial for enhancing business growth and scalability (Ellis and Brown, 2017; Ries, 2011). The significance of GH and its various applications are increasingly being investigated in different contexts (Bohnsack and Liesner, 2019; Conway and Hemphill, 2019; Troisi et al., 2020). A recent study

explored the international markets arena, proposing several research propositions regarding the capabilities and routines that companies develop to tackle international markets and facilitate international expansion (Bargoni et al., 2023).

This highlights that adopting the right growth strategies, such as GH, especially during the scaling phase, and expanding into international markets can serve as powerful catalysts for SME growth. However, the existing literature in this research domain remains limited. Specifically, there is a lack of comprehensive knowledge regarding the impact and potential opportunities associated with GH in terms of scaling SMEs and enabling accelerated growth during their internationalization process. To the best of our knowledge, further research is needed to explore and elucidate the potential influence and opportunities of GH for SMEs during their internationalization journey. In addition, we urge studies to explore whether GH can foster firm's resilience and internationalization.

The objective of this research is to examine in-depth the role of GH in supporting SMEs during the internationalization phase, with a focus on its potential to facilitate faster growth and capitalize on opportunities arising from international expansion. By analyzing the influence of GH strategies, this research seeks to understand how these strategies can contribute to overcoming barriers and leveraging opportunities during SMEs' internationalization journey. The research question addressed is as follows:

RQ1: What is the impact of GH on the scalability of SMEs and the achievement of accelerated growth during their internationalization process?

RQ2: what is the role of GH in fostering SMEs' resilience through internationalization processes?

To address this research question, an inductive qualitative approach is proposed, involving multiple case studies (Eisenhardt and Graebner, 2007; Gioia et al., 2013). These case studies will investigate SMEs that have undertaken internationalization journeys or have utilized GH and associated or similar strategies for expansion. The study will also encompass open-ended essays to the collaborators involved in the internationalization process, across various business sectors to ensure a comprehensive analysis, thereby enhancing the overall validity and reliability of the research findings.

Based on the above, the expected results of this research are as follows. First, we expect to identify business development patterns and strategies adopted by SMEs during the internationalization process. Second, we expect to evaluate the effectiveness of GH and related strategies in accelerating the growth of SMEs during the internationalization process. Third, we expect to assess the impact of GH on the scalability of SMEs during the internationalization process. Finally, we expect to identify best practices and lessons learned from SMEs that have used GH to expand their international operations.

Our study will contribute to two different streams of research. First, it will bring new empirical evidence to the GH literature investigating the impact and prospective opportunities of the scaling process during SMEs' internationalization. Second, it will contribute to enrich current knowledge on internationalization and growth strategies of SMEs and, particularly, on GH.

As for managerial implications, our results may be useful for gather empirical evidence to investigate the impact that GH strategies has had on SMEs and the opportunities that have arisen. Firstly, SMEs might consider incorporating GH techniques into their international expansion plans to enhance growth results. Secondly, they could learn from GH best practices and adapt them to their own internationalization efforts. Finally, SMEs might explore and leverage digital technologies and innovative growth-oriented approaches to overcome barriers and reach global markets more effectively.

*Keywords: Growth Hacking, Big data, Digital transformation, Experimentation process, Test, Growth strategies, Business growth*

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## THE ROLE OF EMOTIONS IN MARKETING: A BUSINESS PERSPECTIVE

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### ABSTRACT

The role of emotions has recently come under the spotlight in Marketing research. Emotions are psychological forces that affect the strategic behaviour of key decision-makers in firms' internationalisation activities such as, for example, international relationship building processes (Couper et al., 2020; Hassett et al., 2018; Leonidou et al., 2019; Wang et al., 2020), foreign direct investments (Li et al., 2019), and in many others (Grappi et al., 2020). However, it has been pointed that the state of existing IB research today with a focus on emotional processes (such as emotional regulation processes, emotional intelligence e.g., Leonidou et al., 2019; Quintillán & Peña-Legazkue, 2020) consists of largely fragmented insights and particularities. There is noticeable lack of a much-needed synthesis of existing knowledge on emotions in IB in order to clearly identify (i) how specific emotions of international entrepreneurs are associated with internationalisation phenomena (e.g., scope of internationalisation, speed of internationalisation), and (ii) how the interplay of emotions at different levels (e.g., individuals, teams, business) shape IB strategies, besides the generic claim that emotions can affect judgements in international decision-making (Vahlne & Johanson, 2020; Vahlne & Schweizer, 2022).

Without this knowledge scholars cannot fully explain managerial choices in the internationalisation context, such as international uncertainty avoidance or the aptitude to progress in small steps rather than in big ones in the context of internationalisation (Vahlne & Johanson, 2020). Hence, there is an increased risk of developing inconsistent and contradictory findings in the IB literature, and therefore the ability to develop or improve internationalisation theories is limited (Newbert et al., 2022).

With the current research proposal, we aim to fill this gap in the literature and advance our understanding of international entrepreneurship behaviour by systematically reviewing the existing IB literature on emotions in internationalisation, and in addition enriching and synthesizing it with insights about emotions from the latest research within the psychology literature (e.g., Lteif et al., 2023). In particular, our research purpose is to unearth the antecedents, processes and mechanisms of emotions of international entrepreneurs, as well as the outcomes of the emergence of emotions in the context of internationalisation.

In order to synthesize the existing knowledge, we conduct a large-scale systematic literature study based on the last decades' published work on emotions and internationalisation. Our research aim is

to understand a) how emotions emerge at different levels (e.g., individuals, teams, business), b) how these can shape IB strategies, and c) what are the implications for internationalisation growth and performance.

*Keywords: Emotions, Family Businesses, Marketing, Financial Performance*

## SEAPLANES AND TOURISM

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### ABSTRACT

The noun “hydroplane” or “hydro” means a powerboat designed for racing that skims the surface of the water, but it also has the meaning of seaplane. On 28 March 1910, Henri Fabre successfully flew the first true seaplane, the Fabre Hydration (Defensebridge, 2023), six years after the historical flight of the Wright brothers, on 17 December 1903. The current research focuses on this means of hybrid transport. It takes an approach to innovative seaplane business, from the point of view of tourism development.

The authentic version of the current phenomenon of tourism emerged in the era of Industrial Revolution, when people began to work as salaried industrial workers and acquired the right to paid vacations (Jégouzo, 2018). Hydroplanes emerged in that first revolution of tourism. Nowadays, in the context of third revolution of tourism, the shift of the center of gravity of the world economy towards the East, global hypercompetition, waves of technological innovation but also societal transformations and the emergence of new social demands contribute to shaping an unstable, complex and uncertain environment, to which tourism adapts while participating in its dynamic of evolution (Clergeau, 2016). The cross-sectorial nature of tourism is exemplified by the case of transports, through seaplanes or other means, being available for tourists as well as other travelers. A sui generis form of tourism is cruise tourism, with the cruise ship being considered a floating hotel. In 1844, the first passenger cruises were introduced, to conduct sea tours from Southampton to Athens, Malta and Gibraltar. Their role was enhanced four years earlier, as the same company started to deliver mail to Alexandria of Egypt, via Gibraltar and Malta (Anonymous, 2014). It is notable that this fact was the birth of modern-day cruises (Anonymous, 2014). In a comparable way, the British firm Supermarine operated the world’s first flying boat service in 1919 (Hollings, 2020). Four years later, the government of the UK ordered five aviation firms to merge into their state-owned “Imperial Airways of London”, providing distant colonies with both passenger and mail transport links (Hollings, 2020). A challenge for the tourism development consists in combination of seaplanes with cruises, for the conduction of excursions of cruise passengers to other destinations, such as nearby islands. There is also the issue of the possible interconnection of two neighboring States with no land frontiers by seaplanes, as it is the case of Greece and Italy, being emblematic in terms of littoralization, a phenomenon which has become mainstreaming, since the 19<sup>th</sup> century (Maniatis et al., 2023). The question is not new, as that

interconnection in form of a European Union co-funded program was attempted in 2013, with a pilot flight from Brindisi to Corfu.

Since 2014 the European Union Strategy for the Adriatic and Ionian Region (EUSAIR), with tourism as an official thematic area, has been in existence, let alone indefinitely. Nevertheless, it is not widely known and, as a result, it is essentially too distant from both the inhabitants of the ten countries involved and visitors. It is odd for tourists to realize trips without having an idea on the existence of the novelty of "Macroregion", which includes not only European Union countries but also others. It is undervaluing for the Union itself that even the inhabitants of the unionist polities concerned are usually unaware of the existence of the macro-regional level (Maniatis, 2023). Furthermore, the macroregional novelty has been partly blackened by the ongoing war in Ukraine, a country which is actively involved in one of these Macroregional Strategies, hence a question of undervaluation and threat against the values of the international peace and security (Maniatis, 2023).

Besides, it is worth clarifying expressions relevant to leisure and potentially to tourism, such as "diporto" and "diportista nautico", in Italian, as well as "plaisance" and "plaisancier" respectively, in French, especially because of their autonomy from the common concept of leisure. The noun "diporto" means pleasure and is mainly connected with the idea of movement, including yacht boating. In a comparable way, in French the word "plaisance" signifies navigation when practiced as a hobby whilst the general sense of pleasant character is considered ancient. Pleasure boating, namely "plaisance" in its maritime sense, has been developed since the 19th century, with the appearance of sailboats intended for the pleasure of sailing. What's more, the French adjective "nautique" is related to navigation, but also has a specific meaning, consisting in swimming and other recreational activities conducted in the water. Leisure constitutes an important naval good after the emergence of the Industrial Revolution, especially in the dual conceptualization of the Navy, namely maritime and aeronautical. On the one hand, it is about the nautical meaning, symbolized by the sailboat. It is to signalize that sea tourism is mainly symbolized by cruise ships, which emerged and began to develop their activity in the same century of the devotion of sailboats to recreational purposes. On the other hand, leisure and tourism are endowed with a more recent, aeronautical meaning, symbolized by the seaplane. Nevertheless, if hydroplanes currently have been associated to a leisurely pace against the pace of landplanes, about a century earlier they were faster than that alternative.

To sum up, seaplanes are a new trend, given that they had almost been marginalized in the post-war era. A quite old type of vehicle is back, being this time one of the symbols of a very dynamic and strong market, such as tourism, which leads the period of third revolution. It would deserve to be



interpreted as a great challenge for innovative business, especially of the private sector which has constituted diachronically the real protagonist in the field of leisure and tourism. Companies, including startups, could enact a dynamic role on the matter, especially boosted by advertisement. In this highly recommended entrepreneurial context, generic institutions, such as EUSAIR, could become brand names for tourist destinations, mainly of mainstreaming tourist and archaeological countries, such as Italy and Greece. Last but not least, commercial promotion could be based inter alia on the important terminology of maritime leisure and tourism, in the framework of various languages and national cultures.

*Keywords: cruise; European Union Strategy for the Adriatic and Ionian Region (EUSAIR); hydroplane/hydro; innovative business; seaplane; tourism*

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## JAPANESE SPACE EXPLORATION AND BUSINESS

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### ABSTRACT

Japan is an interesting country, due to its economic growth and its tendency to research and development. It has achieved a very high standard of living, based on new technologies, in spite of the fact that it lost the WWII and was subject to international occupation for some years. These remarks are valid, even in the current era of globalization, which is extremely competitive, whilst nowadays outer space has evolved into the fourth dimension of military force, beyond the classical set of the land, the air and the sea (Kolovos, 2006). During the occupation, General MacArthur's plans turned from demilitarization and democratization, being mainstreaming axes of the postwar Constitution of 1946, to re-militarization and economic stabilization (Goto-Jones, 2009). Furthermore, Japan has been traditionally distinguished by its tendency to international democratization of consumption, being exemplified by watches (Maniatis, 2024). The current study focuses on the space exploration and potential exploitation by the Land of the Rising Sun.

Pursuant to the U.S.-Japan Treaty of Mutual Cooperation and Security, concluded initially in 1960, Japan was not allowed to develop aviation and aerospace technologies whilst those restrictions were loosened in 1969. Japanese authorities elected to merge the three groups being competent for space, into one, in 2003, by creating a single independent administrative agency, the "Japan Aerospace Exploration Agency (JAXA)". That fusion was a landmark moment in the process of emergence of this polity as an important space power. Five years later, the Parliament modified the Basic Space Law, to bring Japan in line with the Outer Space Treaty, which has been the mainstreaming international treaty of space law, to date (Vijayakumar, 2020). That amendment has enabled the country to deploy defensive capabilities in space, paving the way for increased military use of outer space, for various reasons (Vijayakumar, 2020). Japan has contributed to the democratization of the use of space, as it is the case of the "BIRDS" project (Joint Global Multination Birds Satellite Project), having demonstrated a successful model of technological assistance in facilitating space launches for non space-faring nations, such as Nigeria, Mongolia, Bangladesh, and Ghana (Vijayakumar, 2020).

After being the world's second largest economy, in terms of gross nominal domestic product, from 1968 until 2010, Japan fell behind China and since 2023 also behind Germany, to fourth place, whilst the U.S. keeps occupying the first place. It slips into recession, but it achieved a smooth landing on the

Moon with an uncrewed spacecraft, the Smart Lander for Investigating the Moon, called SLIM, on 20 January 2024. It is designed to land within a 328-foot (100-meter) zone, far smaller than previous lunar landers which have had landing zones spanning multiple kilometers and, as a result, this technology could assist future landings by allowing spacecraft to land in relatively small areas amid rocky or uneven terrain (Borowitz, 2024). JAXA's launch comes only six months after India's Moon landing and just weeks after a failed attempt by a U.S., non-public company, commonly referred to as Astrobotic, whilst both Russia and the private enterprise iSpace made unsuccessful landing attempts in 2023 (Borowitz, 2024). The latter is a Japanese private company, which was founded on 10 September 2010 in Tokyo and develops robotic spacecraft and other technology to compete for transportation and exploration mission contracts from space agencies and other industries which do not belong to the public sector. The robotic Hakuto-R aimed to become the first private spacecraft, and the first Japanese-built vehicle, ever to land softly on the surface of the Moon, but in vain. In the meanwhile, the Texas-based private company "Intuitive Machines" made this achievement. Its spacecraft landed near the Moon's south pole on 22 February 2024, the first U.S. touchdown on the lunar surface in more than half a century and the first ever achieved by a private entity. It was also the first time any spaceship had visited a spot so far in the Moon's south, down in a region where ice is preserved in permanently shadowed craters (Kluger, 2024). The second lunar mission of the Japanese company aims to perform a soft landing in late 2024. Besides, iSpace is not the unique player in the domain of space business in Japan. This market is dominated by four private companies, such as "Mitsubishi Heavy Industries (MHI)", which manufactures solid fuel rockets, "IHI Aerospace", being involved in the liquid-propellant rocket market, "Mitsubishi Electric Corporation (MELCO)", and "NEC Space Technologies" (International Trade Administration, 2021). These enterprises are supported by venture capital-backed startups, such as Astroscale, specialized in debris removal demonstrations and missions, the aforementioned iSpace, Axelspace, engaged in launching a constellation of microsatellites for Earth observation and GITAI, dealing with production of robots to conduct activities in space (International Trade Administration, 2021). The U.S. and Japan have been two of the eight initial signatories of the Artemis Accords on the exploration of outer space, including the Moon, demonstrating their foundational commitment of peaceful space exploration. JAXA has partnered with the U.S. and taken on a very important component of the NASA's Artemis missions – the development of a pressurized lunar rover, which is a new and complex technology that will be critical to human missions on the Moon, in coming years (Borowitz, 2024).

To sum up, an institutional isomorphism has resulted, with the creation of the Japanese independent agency, JAXA, following the model of NASA, with which it has fostered important bonds. Moreover, Japan has realized a positive reform in its internal law, to take full advantage of the Outer Space

Treaty, and has been endowed with elements of technological perfection on the matter, due to the active involvement of the private sector, which has proved to be very successful. Last but not least, it has enacted an important role of democratization of consumption on an international scale, not only in land but also in space.

*Keywords: democratization of consumption; Japan; Japan Aerospace Exploration Agency (JAXA); iSpace; space business; space law*

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## ARTEMIS PROGRAM AND BUSINESS

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### ABSTRACT

The current study focuses on the Artemis Program and the Artemis Accords. It is also related to the relevant role of the private sector, especially in combination of specialized public agencies.

Grounded in the Outer Space Treaty, which has been called Magna Carta for the Outer Space Law (Argyrou, 2021), the Artemis Accords are a non-binding set of principles designed to guide civil space exploration and use in the 21<sup>st</sup> century (U.S. Department of State, 2023). They arose from the Artemis program of NASA, which will land the first woman and first person of color on the Earth's natural satellite. The program seeks to put the first crew there in late 2026 whilst the official target, in September 2020, was to achieve this mission in 2024. This delay is indicative of the difficulty of the mankind's comeback. If Artemis goes well, then the near future might also see NASA and partners developing a space station in lunar orbit that could serve as a gateway to destinations on the Moon's surface – and beyond (Drake et al., 2020). Indeed, it is possible to launch from the Moon heavier spaceships to Mars or elsewhere more easily (Elafros, 2022). Those Accords were launched on 13 October 2020 whilst the Hellenic Republic became just the 35<sup>th</sup> country to have signed them, on 9 February 2024. Greece created, a few years ago, an ad hoc agency, which in its current form is officially called "Hellenic Space Center". This non-profit organization is a legal person under private law whilst the previous carrier had the specific nature of société anonyme. This option is related to the recent tendency of privatization and commercialization of activities related to the exploration and exploitation of outer space, on international scale. Pursuant to Section 9, the Signatories intend to preserve outer space heritage, which they consider to comprise historically significant human or robotic landing sites, artifacts, spacecraft, and other evidence of activity on celestial bodies in accordance with mutually developed standards and practices. In 2020, three rovers from the Apollo 15, 16 and 17 missions were given historic landmark status in the US state of Washington, home of their manufacturers, Boeing, being a competitor in contracts to develop technologies to return to the Moon (Gorman, 2020), namely with reference to the Artemis Program. This action has combined cultural heritage with "engineering heritage", whereby a technology or company can prove it has a track record in space (Gorman, 2020). More precisely, Boeing Company, which was founded by William Boeing in Seattle in 1916, is an American multinational corporation, which designs manufactures and sells airplanes, rotorcraft, rockets, satellites and missiles on an international scale. It

is classified among the largest aerospace manufacturers, worldwide. It is about the fourth-largest defense contractor in the world, according to 2022 revenue. As far as Artemis Program is concerned, Boeing is responsible for designing, developing, testing and producing the core stages, upper stages, and avionics suite for the Space Launch System fleet of rockets. This System is a powerful rocket that will carry astronauts and also cargo to the Moon, Mars, and beyond. Furthermore, Boeing's involvement includes the Artemis II mission, in which the crewed Orion spacecraft will orbit the Moon and return. This mission is regarded as suitable to pave the way for missions to Mars.

Besides, the U.S. position is that the Outer Space Treaty does not ban the exploitation of space resources and the Commercial Space Launch Competitiveness Act of 2015 stipulates that the "*United Nations citizen engaged in commercial recovery of an asteroid resource or a space resource under this chapter shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell the asteroid resource or space resource obtained in accordance with applicable law, including the international obligations of the United States*" (Bartóki-Gönczy et al., 2023). However, it is about a controversial matter, in particular because the term "exploitation" is fully absent in the entire text of the Treaty, so the economic exploitation of space resources seems to be rather a taboo.

Finally, it is also notable that companies involved in space exploration are also engaged in the air transport domain, unlike the fact that space law is basically different from air law. At least some of those enterprises have a strong reputation, which they take care to preserve, especially against their competitors. For example, in 2013 a company specializing in aircraft engines was informed by an airline that one of the four engines of an aircraft during a very long international flight in the airspace of a third country had failed. As the manufacturer considered that it would be an affront to its prestige if this became known to the third State, from which competing manufacturers originate, it instructed the carrier not to land in that State but to continue on to another one, where it would make use of another airplane to transport passengers to their final destination, as there was not enough fuel to complete the originally planned flight. This project was successfully conducted, in secret.

To sum up, Artemis Program has been marked by a very intense ambition of its creators to send astronauts on the Moon's surface, very soon, which turned out to be an unaccomplished ambition, as the Moon is still particularly dangerous to explore, even for unmanned missions like that of Odysseus. Space exploration and exploitation have been gradually based, to a great extent, on private financial initiative. For instance, Boeing's participation in Artemis Program has proved to be very significant. The project of exploration of the cosmos constitutes a challenge, not only for business but also for systemic cooperation between the public sector and the private one, let alone in an international

context, as promoted by the Artemis Accords (international cooperation, interoperability, etc.). Besides, both commercial prestige and trade secret are of major importance in the air transport market and, probably, also in the space market.

*Keywords: air transport market; Artemis Accords; Artemis Program; Boeing; commercial secret/trade secret; Moon; private sector business*

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## THE DETERMINANTS OF NEW BUSINESS DENSITY IN THE WORLD: COMPARATIVE ANALYSES

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### ABSTRACT

The present study investigates the determinants of new business creation in developed and developing countries in comparative analyses. The literature extensively studies new business creation. Various countries have contrasting environments for new business creation: economic factors, industry and infrastructure, and country institutions.

Sternberg & Wennekers (2005) analyzed the determinants of new business creation, indicating that new venture creation is a hallmark of entrepreneurship. They found a positive effect of entrepreneurial activity on economic growth for highly developed countries but a negative effect for developing nations. Dyck and Ovaska (2011) emphasized the impact of the business environment on creating new firms. Nica (2021) focuses on the relationships between economic development and new business creation, suggesting a continuous decline in business creation rates in the USA. The availability of venture capital investment positively affects the rate of new business creation (Popov & Roosenboom, 2013).

The study's data sources, which have been meticulously selected, include the World Bank's open access data resources and country assessment indices of the Heritage Foundation, the Freedom House, the Transparency International, and data of other entities. The dependent variable is new business density (NBD) defined by the World Bank as the net surviving new businesses per 1000 working age population. The independent variables are 42 country economic and institutional indicators. The data processing technique is an OLS estimation, ensuring a comprehensive and robust analysis.

The results of the present study indicate that overall, NBD significantly depends on seven factors (Table 1). Two of them (human capital and structural changes) negatively impact the current NBD in developed countries, indicating that countries have expensive human capital/labor, strict regulations, and competition from imports. In developing countries, different factors determine weak NBD: government corruption, restricted civil liberties, and raging inflation.

Future research should use more advanced statistical techniques to determine causal relationships between NBD and economic development under the instrumental influence of country institutions.



Table 1: OLS Estimation – the economic and institutional factors affecting small business density

| Independent variables                  | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig.  | F      | R2 /R2Adj. |
|--|-----------------------------|------------|---------------------------|--------|-------|--------|------------|
|  | B                           | Std. Error | Beta                      |        |       |        |            |
| All Countries                          |                             |            |                           |        |       |        |            |
| Constant                               | -5.420                      | 2.687      |                           | -2.017 | 0.046 | 21.5** | .537/.512  |
| Economic freedom                       | 0.141                       | 0.050      | 0.272                     | 2.833  | 0.005 |        |            |
| Information/communication technologies | 0.464                       | 0.103      | 0.636                     | 4.501  | 0.000 |        |            |
| Human capital                          | -0.165                      | 0.057      | -0.441                    | -2.880 | 0.005 |        |            |
| Civil liberties                        | 0.100                       | 0.026      | 0.313                     | 3.857  | 0.000 |        |            |
| Foreign direct investment              | 4.762E-05                   | 0.000      | 0.269                     | 3.992  | 0.000 |        |            |
| Structural changes                     | -0.345                      | 0.095      | -0.375                    | -3.633 | 0.000 |        |            |
| Ease of getting construction permits   | 0.081                       | 0.034      | 0.191                     | 2.378  | 0.019 |        |            |
| Developed Countries                    |                             |            |                           |        |       |        |            |
| Constant                               | -43.826                     | 14.336     |                           | -3.057 | 0.004 | 26.11* | .798/768   |
| The role of private sector             | 0.893                       | 0.198      | 0.547                     | 4.515  | 0.000 |        |            |
| Structural changes                     | -0.593                      | 0.132      | -0.370                    | -4.480 | 0.000 |        |            |
| Human capital                          | -0.460                      | 0.082      | -0.636                    | -5.606 | 0.000 |        |            |
| Information/communication technologies | 0.525                       | 0.155      | 0.342                     | 3.383  | 0.002 |        |            |
| Judicial effectiveness                 | 0.151                       | 0.065      | 0.320                     | 2.336  | 0.026 |        |            |
| Developing Countries                   |                             |            |                           |        |       |        |            |
| Constant                               | -19.403                     | 7.862      |                           | -2.468 | 0.015 | 12.51* | .281/.259  |
| Government integrity                   | 0.091                       | 0.024      | 0.337                     | 3.819  | 0.000 |        |            |
| Civil liberties                        | 0.073                       | 0.021      | 0.307                     | 3.497  | 0.001 |        |            |
| Inflation                              | 0.065                       | 0.032      | 0.180                     | 2.064  | 0.042 |        |            |

\*\* . p<0.01

Dependent variable: New business density (The World Bank)

*Keywords: New business density, entrepreneurship, developed countries, developing countries, institutions, human capital, information technologies, structural changes*

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## **SOCIAL INDICATORS TO ASSESS SUSTAINABILITY: SIMILARITIES AND DIFFERENCES BETWEEN TWO WINE REGIONS**

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### **ABSTRACT**

Among the three traditional pillars of sustainability, the social dimension stands out as the least investigated (Massuça et al., 2023). Additionally, many social indicators used in sustainability assessment models lack scientific rigor, primarily focusing on the internal dynamics of companies (Rasmussen et al., 2017), thereby neglecting the comprehensive global perspective of the agribusiness sector and the regions they pertain to (Hovardas, 2021). Furthermore, existing sustainability assessment models suffer from various drawbacks, including biases in "political and territorial" management, lack of comparability, and, most importantly, a failure to empower end users, namely stakeholders. Trigo et al. (2023) and Santiago-Brown et al. (2014) also emphasize the importance of adapting models to the specific analysis context, especially in the case of highly complex winegrowing systems intricately connected to their surrounding environments. As in other contexts, regional considerations dictate stakeholders' priorities concerning the aspects deemed crucial for assessment within the realm of social sustainability. Consequently, it is imperative to solicit diverse stakeholder input during the development of a model intended for replication.

In the specific context of the wine industry, the main objective of this study is to identify and prioritize indicators for assessing social sustainability, aligning them with the genuine concerns of stakeholders. Additionally, the goal is to ensure that these indicators are tailored to the unique geographical and social characteristics of specific regions. To achieve this, a participatory approach involving stakeholders was implemented in two distinct geographic areas: the Vinhos Verdes region and the Demarcated Douro region, situated in the northwest and northeast of Portugal, respectively. Through this method, the goal is to discern differences and commonalities in the selection of social indicators across regions, as well as to evaluate levels of agreement and seek consensus among the diverse stakeholder perspectives in varying contexts.

The research begins with an exhaustive compilation of social indicators derived from a comprehensive literature review on sustainability assessments applied to agribusiness. Subsequently, a participatory and collaborative methodology was employed to streamline the selection process, where the most relevant social indicators from this list were carefully chosen for inclusion in a tailored sustainability

assessment model designed specifically for the wine industry. In the two regions under analysis, a diverse array of stakeholders from the wine industry were engaged, including small vineyard producers, company/farm managers, field staff, grape and wine specialists, local wine associations, oenologists, wine tourism operators, as well as civil and government institutions. To identify, integrate, and establish consensus among these diverse expert groups, and to pinpoint the most crucial indicators to be considered within each specific context, we utilized the Real-Time Delphi method - a digital adaptation of the traditional Delphi method.

The findings reveal a notable level of consensus rather than divergence. Points of convergence between the two regions center around the importance placed on Fair Wages, Access to Healthcare, and Safety. However, the relative importance of Migration and Continuity of Agricultural Activity has been perceived differently by the two groups. These shared priorities suggest a common set of values that transcend regional boundaries, highlighting universal concerns within the context of sustainability.

Conversely, the observed disparities provide illuminating insights into the multifaceted dynamics of social sustainability, highlighting where regional perspectives or contexts diverge. It is imperative to delve deeper into the underlying factors driving these variations, taking into account elements such as cultural norms, economic landscapes, and environmental conditions. Understanding these nuances is crucial for devising inclusive and effective sustainability strategies that address the diverse needs and perspectives across different regions.

By establishing a foundational framework of social indicators through consensus, this research significantly contributes to bridging the identified gap in the social dimension of sustainability assessment. Simultaneously, it not only lays the groundwork for evaluating sustainability more comprehensively, but also underscores the significance of acknowledging and addressing socio-cultural disparities. The study advocates for a more equitable and inclusive approach to sustainability, emphasizing its practical implications for decision-making and intervention strategies at both managerial and governance levels.

Furthermore, it provides practical guidelines for policymakers and stakeholders to utilize the research findings effectively in developing social sustainability initiatives. By identifying commonalities and differences, it offers insights into potential implications for policy-making, territorial management, resource allocation, and community development efforts in diverse regions.

Central to this approach is a strong emphasis on stakeholder involvement and participatory methodologies. By promoting ongoing dialogue and collaboration among researchers, practitioners, and communities, we ensure that sustainability indicators are not only relevant but also reflect the diverse perspectives and priorities of different stakeholders. Incorporating these perspectives into

assessment frameworks enables a more nuanced understanding of social sustainability dynamics and facilitates positive social change towards a more sustainable and inclusive future.

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*Keywords: Sustainability indicators, Social dimension, Sustainability assessment, Public participation, Collaborative selection.*

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## OPTIMISING THE PROFITABILITY OF MARITIME PINE FORESTS IN THE CONTEXT OF TIMBER AND RESIN EXPLOITATION

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### ABSTRACT

Forests play a crucial role in sustainable development, providing significant environmental benefits (Wang et al., 2023). Moreover, recognizing their socio-economic potential, including value creation and job generation, can catalyse significant dynamics within the territories (Melo, 2017). In this context, it is imperative to construct tools that effectively highlight the value of forest products, as well as to implement robust technical and economic management systems for production and decision-making support.

In Portugal, maritime pine stands out as one of the dominant forest species, covering 22% of the forested area (ICNF, 2015). There exists comprehensive knowledge about its production system, supported by various management tools such as tree volume equations, production tables (e.g., Fonseca and Carneiro, 2019), and growth simulation models (e.g., ModisPinaster, Fonseca et al., 2012). However, a notable absence persists in the realm of economic and financial analysis models that amalgamate both technical and economic insights. This paper aims to address this gap by presenting an optimisation model designed to facilitate economic and financial analysis of maritime pine plantations across diverse scenarios, over a 40-year timeframe.

Information sources for the model included collaborative work between academics and specialized technicians from the forestry sector; thematic literature; data tables containing reference costs for afforestation, reforestation, forest improvement, and exploitation, as provided by the Monitoring Committee for Forestry Operations (CAOF, 2022a, 2022b, 2022c). This collaborative effort facilitated the identification of various technical operations, options, and constraints, both during the establishment phase and throughout the development of the forest stands. Additionally, it enabled the

identification of products, quantification of associated yields and costs, and consideration of complementary factors such as afforestation, reforestation, forest improvement, and exploitation. Furthermore, market research and simulations of maritime pine forest growth and production, conducted using ModisPinaster model, contributed to the development of an economic-financial model. ModisPinaster (Fonseca et al., 2012) simulates the growth and yield of maritime pine forests during a specific period of evolution chosen by the user. The output data includes the characterisation of the stand in each year of the planning horizon and the date on which specific forestry interventions, such as thinning, are carried out. The execution of interventions can be based on the specification of the thinning weight, in number of trees, or on factors or indices of average spacing between trees, such as the Stand Density Index (SDI) or the Wilson Spacing Factor (Fw). Interventions can also be imposed by the user at chosen stand ages. The characterisation of the woody material removed in each thinning, as well as the characterisation of the standing stand in each year of the planning horizon, which provides important data for the practice of resin extraction, are input data for the optimisation model.

Then, the optimisation model was developed aimed at maximizing profitability, considering the time factor and various technical and production constraints. The contemplated scenarios involve timber production with thinning at 20 and 30 years, as well as scenarios without this operation, in conjunction with or without resin extraction. There are two options for resin harvesting: less intensive resin harvesting, which begins when the trees reach a minimum diameter of 20 cm, or more intensive resin harvesting between the ages of 37 and 40, when clearcutting takes place. A homogeneous stand of 1500 trees per hectare, ten years old, is assumed.

The optimal solution identifies that the most profitable pine forests are those implementing thinning operations at 30 years, with the removal of 500 trees per hectare having the smallest diameter. Additionally, resin extraction is conducted in a more intensive manner during the last four years before the final cut at forty years.

Furthermore, alterations in the update rates reveal that the chosen scenario remains robust, indicating the model's resilience to fluctuations in this variable.

The developed model emerges as a crucial asset, offering precise profitability indicators that enable the evaluation of maritime pine production systems' performance. Moreover, it significantly contributes to the decision-making process by identifying optimal strategies to enhance the current production model and enhance overall outcomes.

***Keywords: Business profitability; decision making; maritime pine; production system.***

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# WHAT ABOUT INTEGRATING BIODIVERSITY CONSERVATION INTO VINEYARD MANAGEMENT STRATEGIES? A BIBLIOMETRIC ANALYSIS AND SYSTEMATIC LITERATURE REVIEW

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## ABSTRACT

## INTRODUCTION

The loss of biodiversity has become a crucial challenge for the whole world. Unfortunately, it depends on different causes to which it is necessary to find immediate solutions for its protection. Among these, the main causes are above all linked to human activities such as intensification of agriculture, pollution, imports of goods that, at the same time, transport alien species that destroy species that exist within a country, exploitation of resources, and last but not least climate change (Sun *et al.*, 2022; Caro *et al.*, 2021; Kleespies *et al.*, 2020). The EU Biodiversity Strategy for 2030 aims to address these issues through a comprehensive approach that includes expanding protected areas, restoring degraded ecosystems, and promoting sustainable practices in agriculture and forestry. By taking these measures, the EU hopes to lead by example and inspire global action to combat biodiversity loss (EC, n.d.).

The biodiversity provides a series of peaks both for the earth and for humans. Specifically, the presence of a variety of animals, microorganisms and vegetation contributes to the creation of a sustainable environment and to the stability of ecosystems that, in consequence, guarantee food security and food safety for humans (Dannenberg *et al.*, 2023). This is closely linked to several Sustainable Development Goals (SDGs), such as Goal 2 (Zero Hunger), Goal 3 (Good Health and Well-being), and Goal 15 (Life on Land), which emphasize the importance of biodiversity for human prosperity and environmental health. In this specific case, biodiversity plays a fundamental role allowing citizens to cultivate and to consume products rich of vitamins and minerals indispensable for human well-being (Fiore *et al.*, 2017; Antonazzo *et al.*, 2015). This can be applied to the production of grapes, which are cultivated for wine. In the world, there are many wine producing countries and production environments are characterized by ecosystems and the presence of animals and vegetation, which give to the final product certain features (Sánchez-García *et al.*, 2024). This concept, known as terroir, reflects how the unique combination of soil, climate, and living organisms in a



specific area influences the characteristics of wine, imparting distinctive flavors and qualities to the grapes grown in that region (Wilson, 1998; Oyuela Aguilar et al., 2020).

To the best of our knowledge, there has been limited research that comprehensively examines the interplay between vineyard management practices and biodiversity, particularly within the context of the wine industry's terroir. For this reason, this work aims to analyze the importance of biodiversity in relation to a product like wine and, above all, to understand the impact that vineyard management, both sustainable and unsustainable, has on biodiversity. Consequently, the research question is formulated as following:

*How do sustainable and unsustainable vineyard management practices impact biodiversity, and what are the resulting effects on the environment and the quality of wine?*

As stated by the EU Biodiversity Strategy for 2030, strategies and policies have to focus on restoring nature and protecting biodiversity to ensure sustainable development and a healthier planet while simultaneously improve the quality of products. Specifically, the research aims to analyze the importance of individuating vineyard management strategies from wine producers that allow preserving biodiversity to create, in consequence, positive effects on the environment and on the quality of the wine product.

## **METHODOLOGY**

To carry out this research, the work will make use of two methodologies: Bibliometric analysis and Systematic Literature Review (SLR). Bibliometric analysis allows to analyze a huge quantity of scientific data for studying the contributions of research constituents and for the production of science mapping focused on the relationship between research constituents related to a determined topic in a specific time frame (Donthu *et al.*, 2021).

The work will make use of Bibliometrix, a software written in the R-language to allow the execution of a detailed and careful Bibliometric analysis (Aria *et al.*, 2017). The SLR methodology consists of the operations for detecting, selecting, categorizing, and analyzing relevant articles on a specified subject (Rana et al., 2022) and for carrying out a depth review for understanding and collecting considerations of previous scholars connected to the selected topic in a specific time frame (Christofi et al., 2019). Indeed, for the selection of the papers which will be analysed by the methodology mentioned above, this work will individuate selection criteria like: the words used for the research with the Boolean operators; the time frame; the databases (Scopus, Web of Science, etc..).

## EXPECTED RESULTS

The present research aims to understand the relationship between biodiversity and vineyard management strategies. Specifically, this work investigates how the choice of vineyard wine producers management strategies impacts on biodiversity, on environment and on wine produced. Both sustainable strategies and unsustainable strategies will be considered in order to understand which strategies are widely adopted, the tendency of wine producers and the different impacts on biodiversity.

The findings from this research can provide valuable insights for wineries by highlighting the benefits of adopting sustainable vineyard management practices. These practices not only help in preserving biodiversity and promoting environmental health but also potentially enhance the quality of wine, thereby increasing market value and consumer satisfaction. For consumers, understanding the connection between vineyard management and biodiversity can influence purchasing decisions, encouraging support for wines produced through environmentally friendly practices. Additionally, policymakers can use these insights to develop regulations and incentives that promote sustainable agricultural practices in the wine industry, contributing to broader environmental and public health goals.

## LIMITATIONS

Limitation of this study could be the number of papers selected through the criteria mentioned above. Furthermore, the decided criteria could not select papers related to the identified topic or the research could not be able to collect useful considerations in support of research questions. Despite this, the work can open the development of new lines of research.

## FUTURE RESEARCH

Starting from this research, one possible future step could be the collection of the best vineyard strategies already adopted by wine producers and the dissemination of them to other wine businesses in order to improve the impact on biodiversity as well as on the environment.

*Keywords: Biodiversity, Vineyard Management, Vineyard Strategies, Environmental Impact, Bibliometric, Systematic Literature Review.*

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## SUSTAINABLE ENTREPRENEURSHIP - FROM SOCIAL NEEDS TO BUSINESS: THE SMARTWAY EXPERIENCE

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### ABSTRACT

Despite the increasing scholarly interest towards social entrepreneurship, literature has highlighted that additional insights are still needed to shed light into the intersection of tourism and sustainability, especially concerning its three (Environmental, Social and Economic) dimensions (Zhang et al., 2024; Li et al., 2022; Heidari et al., 2018). Several studies have emphasized the intertwinement between the different forms of tourism (*e.g.*, cultural, wine, food, and sport) and sustainability (Walker et al., 2021; Li et al., 2022; Pato, 2024). In particular, the need to promote local development while preserving environmental and social needs provide an interesting pathway for the rise of sustainable entrepreneurship, that can differ depending on the personal attitudes of the entrepreneur and the surrounding environment (Altinay et al., 2016; Haldar, 2019; Walley et al., 2022). This is even more evident with respect to “rural tourism” where disadvantaged local areas can significantly benefit from employment opportunities and increased income of local residents (Yang and Phan, 2022; Podovac et al., 2019) deriving from the creation and development of sustainable start-ups.

Our research (i) describes the journey of an innovative Italian start-up, Smartway, that has been able to surf the wave of COVID-19 pandemic, boosting social innovation in rural areas, and (ii) investigates its economic and social impact on the local area where it was born (Montepulciano, Tuscany). In doing so, we employed a mixed methodology aimed at leveraging quantitative approaches to define the *economic* impact of the enterprise on the community, and exploiting interviews and questionnaires to understand the *social* impact that the company is able to convey by facilitating interaction among workers, organizations, and the community (Sigala, 2016). The entrepreneurial idea has initially stemmed from the desire to revitalize Italian villages that have experienced significant depopulation in recent decades, by promoting and facilitating smartworking practices and cultural exchange between workers and locals. At the same time, while the pandemic has temporarily disrupted the ability to travel, it has also contributed to the success of the idea by exponentially reinforcing the concept of agile work and creating new corporate needs aimed at promoting social well-being and interaction. Smartway’s offering is based on two main types of products. The first, which they define as “Offsites,” presents itself as a team-building event aimed at strengthening bonds or expanding the

network of people who participate in it. The second, called “Workation,” proposes experiences organized in line with the growing phenomenon of so-called “digital nomadism.” Relying on a well-established network within the territory, Smartway, in addition to guaranteeing the necessary quality standard to carry out work activities, allows the worker to integrate into the social fabric that will host them. From an economic perspective, after reviewing several studies based on the use of Input-Output matrices, the financial information provided by the start-up and other information delivered by the participants through a questionnaire, the results show that for every euro conveyed by Smartway’s activity, the production activated by Smartway within the municipality of Montepulciano amounts to 1.34 euros, distributed as follows: 1.01€ direct impact; 0.05€ indirect impact; 0.28€ induced impact. From a social perspective, the Smartway experience fosters significant social effects by facilitating interactions between participants and local actors, enhancing friendships and collaboration among colleagues, and positively impacting the community’s economy and social cohesion. Through its platform, Smartway acts as a catalyst for social innovation, creating participatory networks between users and local organizations, thus enriching the cultural and economic fabric of the regions it operates in. As highlighted in Bacci (2007), consumption and entrepreneurship tend to be more densely concentrated territorially than the population and, for this reason, the economic importance of tourism appears to be less relevant in large urban centers. After an era of agglomeration towards major urban centers, Smartway aims to create synergies in an alternative way. This start-up has taken advantage from how the pandemic has transformed the way people work, accelerating the adoption of agile work forms such as telecommuting and remote work (Ismail et al., 2023) and drastically altering the relationships (interactions and socialization) between employees (Kähkönen, 2023). Conscious of this, Smartway has effectively generated value for both the territories in which it operates and its client companies. This has been achieved by facilitating the transition to alternative systems that are capable of generating economic and social capital in a more sustainable manner for the entire ecosystem.

*Keywords: sustainability, Entrepreneurship, Start-up, social innovation, Tourism.*

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# THE ROLE OF FEMALE ENTREPRENEURS IN ACHIEVING SUSTAINABLE DEVELOPMENT GOALS IN DEVELOPING COUNTRIES: CASE STUDY NIGERIA AND THAILAND

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## ABSTRACT

This exploratory study aims to assess how female entrepreneurship affects the achievement of the Sustainable Development Goals (SDGs) in developing countries. Further objectives refer to identifying factors that affect female entrepreneurs in driving SDGs in developing countries and to explore areas that can be optimized to aid female entrepreneurs in achieving SDG in developing countries. The work contributes to closing the research gap on the roles of female entrepreneurs in advancing SDGs in developing countries, highlighting the importance of understanding their networking, opportunity-seeking, and their understanding (Raman et al., 2022). Previous literature acknowledges an increase in female entrepreneurship as well as opportunities but also challenges for female entrepreneurs in developing countries, indicating a need to better understand factors that are critical to entrepreneurial success. There is potential for development in terms of technology, entrepreneurial education, and support groups, but gender gaps and cultural barriers still block the way. The study is conducted from a female entrepreneur perspective in developing countries: Nigeria and Thailand were selected as case study settings to examine approaches for optimization and contributions of female entrepreneurship to SDGs. The qualitative data of this study was retrieved from 8 female interview participants from Nigeria and 8 female interviewees from Thailand, hence achieving a total sample size of 16 participants. They were contacted via social media platforms such as Facebook and LinkedIn, and the participants' selection criteria were owning a business in any industry for more than 2 years and being between 20 and 60 years old. The findings were analyzed via content analysis and the software MaxQDA. The interview participants showed differing levels of understanding of the SDGs. They revealed linkages between achieving goals and leveraging entrepreneur education, technology, and support groups that contribute to achieving the SDGs. The study found gaps and concerns in Nigeria and Thailand, emphasizing barriers to achieving the SDGs by 2030. Many of the respondents stated that they are running businesses based on the requirements and pain points of current market trends rather than making a commitment to the SDGs. Furthermore, access to information, training opportunities, funding, mentorship programs, and technology were all noted as critical factors that have a significant impact on building businesses and navigating challenging times. Moreover, the use of social media along with application support on business tracking is part of

technology that help female entrepreneurs run their business smoothly. Apart from technology, continuous learning and self-development are crucial for female entrepreneurs. Support groups were identified to be important for female entrepreneurs to access opportunities such as training, funding, resources, and equipment either in formal groups or informal groups. Summarizing, participants from both countries agree that it is unlikely to achieve SDGs goal by 2030 with many of issues that have been seen as obstacles. A more detailed comparison between the two countries and differentiated conceptual frameworks will be provided at the conference.

*Keywords: Entrepreneurship, Female Entrepreneur, sustainable development goals (SDGs), developing countries, technology, entrepreneurial education, social groups*

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## SHAPING TOMORROW'S ENTREPRENEURS: INSIGHTS AND INNOVATIONS FROM THE ERASMUS+ ENTREPRENEURSHIP TRAINING PROGRAMME

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### ABSTRACT

The Entrepreneurship Training Programme (ETP), funded by the Erasmus+ Programme, is an innovative, short-duration course designed for higher education (HE) students. It aims to cultivate an entrepreneurial mindset and develop skills through the integration of game design and maker-centered learning. The development of the ETP involved a rigorous testing process across five European Higher Education Institutions (HEIs), leading to a refined final version accredited for international implementation.

During the pilot phase, the ETP was tested in three iterative rounds, engaging 175 students from diverse academic backgrounds and 15 entrepreneurship educators, surpassing initial expectations. The course content, structured around the EntreComp Framework, includes six modules focused on fostering competencies through written assessments, group projects, and practical tasks. The iterative testing process enabled continuous refinement of the course, ensuring its effectiveness and relevance. To evaluate the ETP's impact, a combination of qualitative and quantitative data collection methods was employed. Students maintained learning journals, completed final reflective assignments, and provided feedback through quality surveys. Facilitators also contributed to the evaluation, offering insights for ongoing improvement. Additionally, product pitch evaluations were conducted to assess the practical application of learned skills.

The iterative approach of the pilot test involved three rounds, each building on the feedback and outcomes of the previous one. Starting in February 2024, the first round gathered initial feedback and analysis, leading to adjustments for the second round. The final round involved the last phase of training, culminating in a comprehensive evaluation of the programme's overall impact.

Feedback from participants indicated high levels of satisfaction and the effectiveness of the programme, with suggestions for incorporating more interactive elements and balancing module content to fit time constraints. This feedback was crucial in shaping the final version of the ETP.

The successful pilot testing phase not only exceeded participation goals but also provided invaluable insights for course improvement. The final ETP International course, to be held at the University of Aveiro with participants from all partner countries, is set to establish a robust framework for future international editions. This initiative promises to enhance entrepreneurial education by introducing innovative teaching methodologies, ultimately enriching the educational experience and better preparing students for future challenges.

*Keywords: Entrepreneurship Education, Erasmus+ Programme, Higher Education, Entrepreneurial Mindset, Game Design, Maker-Centered Learning, EntreComp Framework.*

## IMPACT OF ORGANIZATIONAL CULTURES ON EMPLOYEE WORK AND ORGANIZATIONAL ENGAGEMENT

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### ABSTRACT

Multinational groups invest heavily in human capital, a source of competitive advantage fundamental to achieving excellent service. This excellence depends on the engagement of employees in optimising processes. There are several factors for management to consider that can lead to greater engagement, one of which is organizational culture.

This study focuses on one of the determining factors in defining the degree of employee engagement in the organization and their work, which has been largely overlooked in the literature compared to the others. This research used a sample of 125 employees from Shared Services Centres in mainland Portugal owned by a non-Portuguese multinational. The results of this study show that organizations with different types of organizational culture achieve different effects, both in terms of engagement in the organization and of employees' engagement in their work – adhocracy and clan culture have a positive impact on the engagement with the organization. However, hierarchy positively influences engagement in the work.

*Keywords: Organizational culture, employee engagement, organizational engagement, work engagement*

## OVERCOMING EVIL WITH GOOD: THE ROLE OF NGOS IN COMBATING MODERN SLAVERY

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### ABSTRACT

**Background:** Patterson (1982) conceives of slavery as a “relation of domination” that is inherently violent, equating slavery with social death and comprehensive loss of belonging and human dignity. Moreover, “The essence of slavery is that the slave, in his social death, lives on the margin between community and chaos, life and death, the sacred and the secular” (Patterson, 1982: 51). There is a fundamental relation of power, between those who control and benefit from slavery and those who are its radically oppressed victims. In recent years, the conceptualization of “modern” slavery has attracted considerable attention from academics, policy makers, legislators, and other actors (e.g., Bales, 2012; Crane 2013). Differences between historic forms of slavery and “modern” slavery are, for some, marginal. For example, significant continuities can be drawn between old abolitionist movements and more contemporary approaches to fight modern slavery (Brace, 2018). Such is the abhorrent nature of slavery, that many have utilized that most evocative of terms, “evil”, to describe it. Several countries have introduced legislation to respond to the growing crisis. And these legislative interventions have required businesses in multiple jurisdictions to disclose what they are – or are not – doing to respond to the risk of modern slavery in their supply chains. In addition to governments and the actions of businesses themselves, other stakeholders such as civil society and non-government organizations (NGOs) have emerged as key actors in the struggle against modern slavery. However, NGOs remain an under-explored actor in the modern slavery landscape.

**Aim & Purpose:** A plethora of anti-slavery NGOs, and broader social-justice focused organizations with an interest in modern slavery, exist across different countries (Ewart-James and Fischer-Daly, 2019). Such organizations often assume important advocacy and support roles – agitating for change while also supporting victims and survivors of modern slavery. The literature highlights how NGOs are heterogenous actors (Saunders & Roth, 2019; Vakil, 1997). They assume different functions, focus on different risk areas and subjects, operate at different levels (e.g., community, city, national, regional, and international) and are founded on different world views. Given our assumption that modern slavery is evil, we draw on both philosophical and religious conceptualizations (e.g., Formosa, 2013; Kekes, 2005; Koehn, 2003) and inquire how such evil might be addressed by NGOs. It therefore seems pertinent to explore faith-based NGOs. Our paper will examine the case of

International Justice Mission (IJM), a large faith-based and global NGO founded in Washington D.C. in 1997 that brings a Christian religious framing, alongside pragmatic legal-judicial interventions, to address the evil of modern slavery.

**Methodology:** As our investigation found, the idea and practice of evil has been examined from both secular and religious philosophical perspectives. This background shaped the selection of the case study NGO with respect to the research question that sought to inquire into how the evil of modern slavery can be remedied. Preliminary investigation into a range of anti-slavery NGOs revealed that International Justice Mission (IJM) was one very large organization that was underpinned by a Christian orientation and yet it also appeared to embrace a range of methods that were largely secular and not necessarily exclusive to a particular religious view on addressing modern slavery. There is much publicly available material about IJM including the organization's website, materials that have been published by IJM staff, and several articles written by independent scholars about IJM. In addition, the first-named author was involved in a different project that had researched social compliance auditors, the role of technology and collaboration between different actors in the fight against modern slavery. This project received university ethics approval and interview data from a series of key informants had been conducted. This included an interview with a senior member of the IJM Australia leadership team in late 2021. The data collection period for IJM was quite extensive for the simple reason that it was important to help build a comprehensive understanding of this NGO over time. The breadth of sources used also provided considerable confidence about how IJM operated, including some of the challenges it faced.

**Main Findings:** NGOs are an important actor alongside governments, businesses and others that seek to address the evil of modern slavery and other forms of oppression and extreme exploitation. In general, they help confront systemic injustices that may not be prioritized to the same extent by other key actors, such as business firms. Specifically, anti-slavery NGOs provide relevant care and support for victims so they can begin the journey of restoration (D'Souza & Marti, 2022). The work of IJM in freeing those in modern slavery is highlighted, along with their unique efforts to strengthen legal (justice) systems in countries where oppression and slavery are more prevalent. Such legal advocacy is important to help build capacity and capability in local justice systems which may not have the ability (and sometimes the will) to secure expeditious and successful prosecution. The analysis also reveals some of the challenges anti-slavery faith-based NGOs can face when they undertake activities to emancipate and rehabilitate victims and bring perpetrators to justice. These include difficulties in engaging with those in positions of authority who do not wish the visibility around modern slavery that IJM's investigations or operations may generate. Such challenges are not exclusive to IJM; governments and agents of government such as law enforcement (police) can be hostile towards, and

hinder NGO efforts, in their fight against modern slavery (Nolan and Boersma, 2019: 180). Other challenges stem from feminist scholars who raise objections regarding the construction of victimhood by IJM (e.g., Desyllas, 2007). For critics, IJM embodies a deeply problematic paternalistic and racialized colonial vision of rescuing the non-white woman subject (see Govindan, 2013).

**Contribution and Originality of Study:** The research illustrates how NGOs focused on global human rights can address modern slavery in often specific ways based on their vision, priorities, and methods. While there can be several differences between NGOs seeking to eliminate modern slavery, they all seek to emancipate those caught in modern slavery and similar practices. Our case study focused on International Justice Mission (IJM), a Christian faith-based NGO. The fact that many diverse NGOs operate in the world to combat modern slavery is encouraging, but nonetheless this pluralism can, from time to time, attract criticism. There may be many grounds for criticism, not least of which might be the politics of religious identity that are not shared among NGOs, or those who object to the assumptions held by an NGO along with its enactment of what that NGO deems is a 'good' operating model and method (see also Unerman and O'Dwyer, 2006; Weidenbaum, 2009). However, it is important to remain mindful that modern slavery can be highly profitable for those who perpetuate it, but harmful and traumatic for those who experience it. Our argument is that periodic criticism should not detract from the very important role played by a plethora of NGOs – including IJM – in their collective efforts to overcome the evil of modern slavery.

*Keywords:* modern slavery, evil, non-government organizations (NGOs), case study, International Justice Mission (IJM).

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## **SUSTAINABILITY INTEGRATION IN ARTS AND GRAPHIC DESIGN STUDIES: INSIGHTS FROM EUROPEAN FUNDED RESEARCH IN CYPRUS, PORTUGAL AND SPAIN**

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### **ABSTRACT**

The fusion of sustainability principles with arts and graphic design education is a growing as an imperative in addressing contemporary environmental challenges. This paper presents insights gathered from a European Funded project *ARDES: Short Learning Program of Art & Design & sustainability with special focus on environment and climate change, co-funded with support from the European Commission* (Ref: 2021-1-ES01-KA220-HED-000032193). The study focuses on the last phase of the project, when our researchers examined the integration of sustainability into arts and graphic design studies before and after implementing the training of a collaborative research with students and teachers within the context of a 4 module course tested at both undergraduate (70%) and postgraduate (30%) levels in Cyprus, Spain and Portugal. By synthesizing academic literature, project findings, and first-hand experiences, this paper offers valuable perspectives on the multifaceted nature of sustainability in the context of art related studies.

The paper begins by contextualizing the significance of sustainability in arts and graphic design education, elucidating its relevance within the broader discourse on environmental stewardship, the role of SDG (Sustainable Development Goals, <https://sdgs.un.org/goals>) and societal responsibility. It emphasizes the need for a paradigm shift and the transformative potential of creative practices in design education in promoting sustainable behaviours and fostering ecological consciousness in a more holistic and environmentally cognizant approach. Drawing upon seminal works by scholars such as Adams (2016) and Fletcher (2013), the paper highlights the transformative potential of graphic design in promoting sustainable behaviour and raising awareness about pressing environmental issues. Through critical analysis of scholarly works by authors like Lupton (2014) and Berman (2012), the paper emphasizes the need for a paradigm shift in design education towards a more holistic and environmentally conscious approach.

Through surveys, interviews, and participatory workshops, the project sought to assess attitudes, perceptions, and challenges related to sustainability integration in arts and graphic design curricula. Key themes emerged from the research, including the importance of interdisciplinary collaboration, the need for sustainability-focused pedagogies, and the role of experiential learning in fostering environmental literacy.

Moreover, the paper explores innovative approaches and best practices identified through the project, highlighting examples of sustainability-driven projects and initiatives spearheaded by students and educators. Case studies from participating institutions demonstrate the diverse ways in which sustainability principles are being incorporated into arts and graphic design education, ranging from eco-friendly materials sourcing to community-engaged design projects to promote modern activism (Alonso-Fradejas *et al.*, 2022) among other techniques.

Methodology wise the paper consists in evaluating semi structured surveys pre-pilot (93) and post-pilot (70) (see Annex 1. Demographic Data of the Research) of the learning materials which consists in a creative interdisciplinary matching of varied art related cases in the context of sustainability and climate change (see Annex 2. Responses to specific qualitative questions of the Survey).

Furthermore, the paper presents a series of case studies and best practices that exemplify innovative approaches to sustainability in arts and graphic design. It explores initiatives such as sustainable printing techniques, eco-friendly materials sourcing, and community-driven design projects that prioritize social and environmental impact. By examining real-world examples from organizations like the Sustainable Graphic Design Project (SGDP) and AIGA's Design for Good initiative, the paper illustrates how designers can leverage their creativity to drive positive change and advance sustainability goals.

By integrating insights from academic literature with empirical research findings, this paper offers practical recommendations for enhancing sustainability education in arts and graphic design studies. It emphasizes the importance of curriculum development that integrates sustainability across disciplines, fosters critical inquiry, and nurtures a culture of sustainability within creative communities. The paper also advocates for ongoing collaboration between academia, industry, and policymakers to advance sustainability goals and address systemic barriers to change.

In conclusion, this abstract highlights the evolving landscape of sustainability integration in arts and graphic design studies, informed by research conducted as part of a European Funded project: It underscores the pivotal role of education in shaping future generations of designers and artists who are equipped to address complex environmental challenges and drive positive social change. By leveraging interdisciplinary collaboration, experiential learning, and innovative pedagogies, arts-based institutions have the opportunity to cultivate a new generation of creative practitioners committed to integrating sustainability into arts and graphic design for a more sustainable and equitable future .

*Keywords: Sustainability, Climate change, Higher education, Activism*

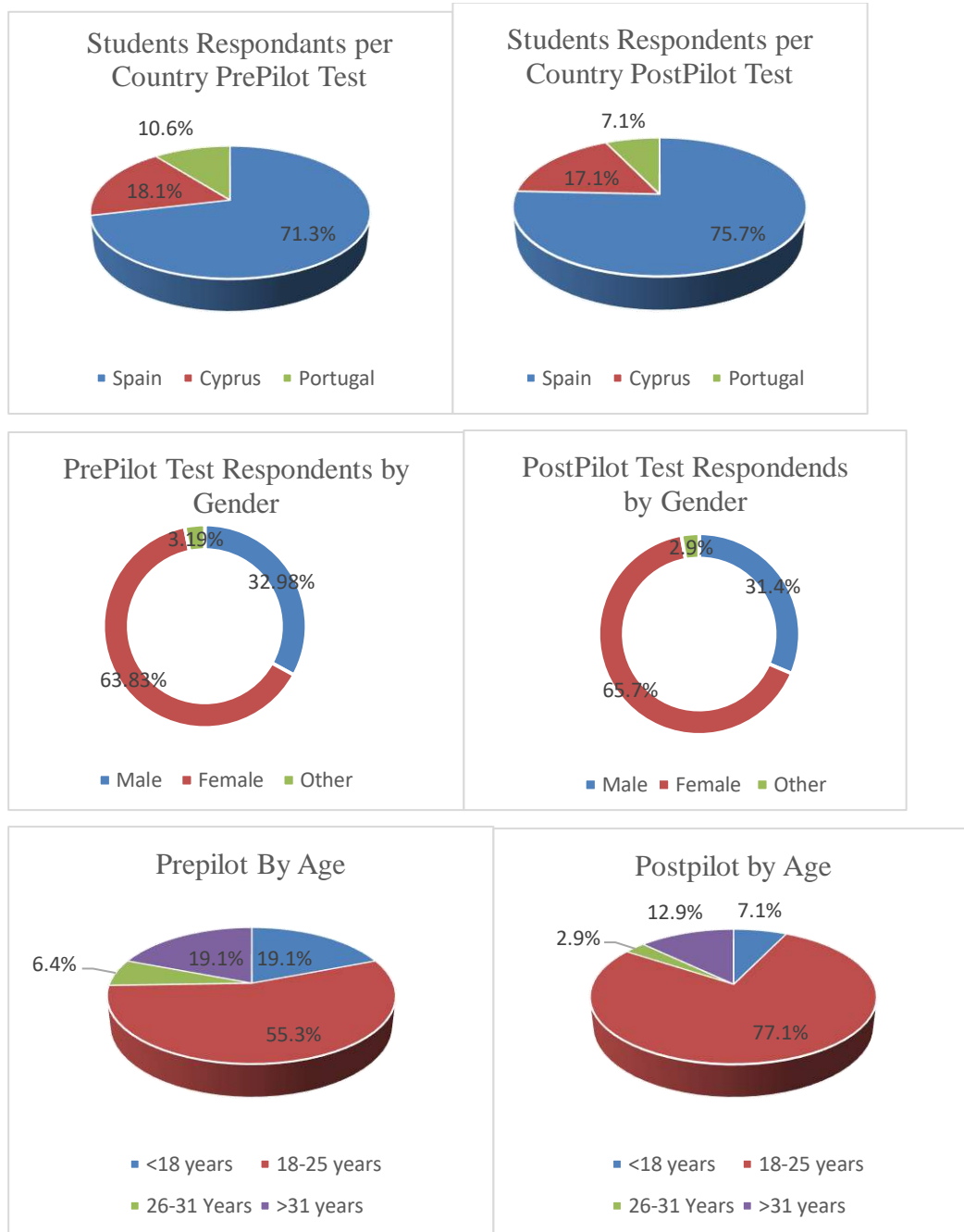
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**LIST OF APPENDICES**

**Annex 1. Demographic Data of the Research.**

Fig.1. Students Respondents Pre-Pilot Test and Post-Pilot Test by Country, Gender and Age.



**Annex 2. Responses to specific qualitative questions of the Survey.**

Fig. 2. Question 1. What was the part you liked most? Please give as much information as possible.



Fig. 3. Question 1. Indicate 3 expressions/ keywords by which artists and designers may contribute to sustainable practices through their creations.

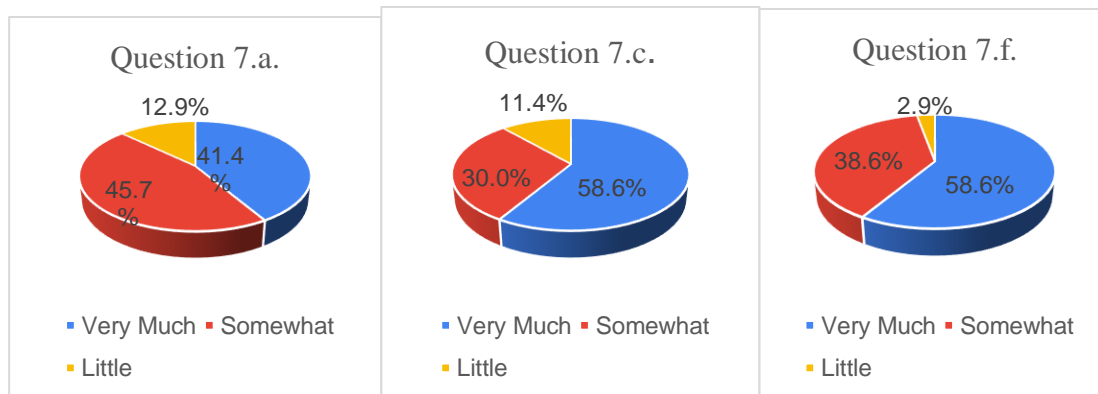


Fig.4. Responses on Questions 7.a, 7c and 7 f.

Q7.a. How much did the course to enhance your knowledge/ intention on the following topics? [a. Sustainability concept]

Q7.c. How much did the course to enhance your knowledge/ intention on the following topics? [c. Links between Sustainability and Art and design]

Q7.f. 7. How much did the course to enhance your knowledge/ intention on the following topics? [f. How to take action on enhancing sustainability in society through your artwork and design?]



## ENVIRONMENTAL CONSCIOUSNESS AND INVESTMENT CHOICES ACROSS GENERATIONS

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### ABSTRACT

**Introduction:** Global sustainability awareness is growing, evident in its increasing role in politics, notably through the adoption of the 2030 Agenda for Sustainable Development by the United Nations (UN), which includes various Sustainable Development Goals (SDGs) (UN). The Paris Agreement represents a significant milestone in addressing climate change on an international scale (BMZ; European Commission). Despite international efforts, there are disparities in sustainability levels among countries, with developing nations often trailing behind due to limited resources (Robeco; Guex and Grunder, 2022).

**Literature Review Findings:** Regulators are increasingly encouraging private investors towards sustainable investments, emphasizing the need for appropriate metrics (European Commission). ESG ratings, assessing companies' economic, social, and governance responsibilities, underpin "ESG investing," aligning financial returns with positive social and/or environmental impacts (Kilic et al., 2022). Conversely, traditional financial investments prioritize maximizing shareholder value, guided by market efficiency theory (Boffo and Patalano, 2020; Fama, 1970). In ESG investing, the balance between social/environmental and financial returns depends on individual preferences (Boffo and Patalano, 2020). Kilic et al. (2022) note that sustainable stocks are less financially appealing in developing countries, prompting further investigation into how environmental awareness influences investment decisions. Globally, investors increasingly consider ESG factors in their decisions, employing ESG integration, value-based investing, and impact investing strategies (Capital Group, 2023; Galbreath, 2013; Giese et al., 2019). Companies can boost their ESG ratings to attract capital market attention, as higher ratings correlate with future ESG news predictability (Liu and Hamori, 2020; Kilic et al., 2022; Serafeim and Yoon, 2023). Improved ESG scores benefit companies by enhancing their value, earnings, and efficiency, leading to better long-term stock returns and ratings (Earnhardt and Lizal, 2007; Khan et al., 2016; Albuquerque et al., 2020). Market reactions to news trigger increased investor attention and trading volume (Berry and Howe, 1994; Barber and Odean, 2008). Younger individuals are often more attracted to sustainable companies and willing to prioritize sustainability over income (Waples and Brachle, 2020; Alonso-Almeida and Llach, 2019), but disparities exist between environmental concern and behavior (BMUV, 2023).

**Purpose:** This research aimed to examine how sustainability awareness affects investment decisions among private investors, particularly focusing on generational differences. Studies show conflicting results regarding sustainable behavior across age groups, with some indicating higher levels among older generations (Sun et al., 2019; Casalengo et al., 2022). Possible factors include affordability constraints for younger consumers and resistance to behaviour change favouring sustainability (Jain and Kaur, 2006). Given these variations, further research is needed. This study aims to address the following research questions (*RQ1*): *Do younger generations, despite valuing sustainability more, exhibit lower sustainable behavior compared to older generations?* Private investors, institutional investors, and investment institutions display different levels of sustainability concern, with private investors frequently incorporating personal values into their decisions (Jansson and Biel, 2011). This study, focused on private investors, examines the impact of sustainable behaviour on investment decisions, leading to the following research questions: *RQ2: Does sustainable behaviour influence a private investor's consideration of sustainability in investment decisions? RQ3: Does a private investor's sustainable behaviour level positively affect their willingness to prioritize sustainability over financial returns in investments?*

**Design/methodology/approach:** Age influences sustainability awareness and behaviour, impacting investors' willingness to prioritize sustainability over financial returns (Kilic et al., 2022). The study explores these dynamics across generations through literature review, methodology, analysis, and conclusions, suggesting avenues for further research. This study follows a positivist research philosophy, using deductive and explanatory methods. Data was collected through a quantitative approach using a survey distributed online over three weeks during 2023, using a 5-point Likert scale. The survey aimed at private investors aged 18 to 77, yielding 103 valid responses out of 112 collected after removing responses from non-investors. The study utilized the statistical software JASP 0.18.3.0 to process quantitative data. Cronbach's alpha assessed questionnaire reliability for overall environmental awareness, environmental concern, and sustainable behaviour. Reverse-scaling was applied to ensure consistency. The Mann-Whitney-U-test analyzed age group differences due to the ordinal nature of variables. Logistic regressions explored relationships between environmental concern, sustainable behaviour, sustainable investment, willingness to sacrifice financial returns, with age and gender as control variables. Significance was determined at  $p < 0.05$ .

**Findings:** Significant variations were observed in sustainability awareness, encompassing environmental concern and sustainable behaviour. Sustainable behaviour positively influenced investors' consideration of sustainability, while age had a negative effect. Moreover, environmental awareness significantly impacted investors' willingness to prioritize sustainability over financial returns, with sustainable behaviour being the determining factor. These findings have implications for

governments seeking to encourage private investments in sustainability and for companies aiming to understand investor behaviour. Transparent communication and expanding investors' knowledge about sustainability are crucial for fostering trust and promoting sustainable investment decisions. Also, the study findings support Jansson and Biel (2011), indicating that some private investors prioritize sustainability over financial returns, aligning with their norms and values. Similarly, Gutsche and Ziegler (2019) discovered a positive correlation between environmental awareness and willingness to sacrifice financial returns. Environmental concern and sustainable behaviour significantly affected the willingness to accept reduced returns, with age also playing a significant role. This echoes Jain and Kaur's (2006) observation that younger generations, often financially less stable, are more cautious with their money. The level of acceptable loss was mainly influenced by sustainable behaviour, emphasizing the value-action gap. Therefore, also RQ3 is answered, albeit with the inclusion of environmental concern.

Limitations include reliance on a questionnaire and the potential for additional variables, like financial status, to improve precision. Future research could explore the influence of origin on investor behaviour and track changes over time as sustainability awareness evolves

**Originality/value:** In summary, this study sheds light on the connection between sustainability awareness and investment decisions, offering insights for policymakers and businesses.

*Keywords:* behavioural investment, sustainability, ESG, investments, generations, financial commitment.

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## UNDERSTANDING THE ROLE OF REASONING IN EXPLAINING PUBLIC ACCEPTANCE OF VERTICAL FARMING PRODUCT

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### ABSTRACT

### INTRODUCTION

To solve environmental pressures brought about by conventional food systems much interest has lately been devoted to indoor food production in urban areas. Vertical farming is currently gathering momentum as the most technological and recent form of application of indoor urban agriculture (Despommier, 2010). This food production method, combining agriculture with technology and architecture in the urban context, shows several advantages. Anyhow, some challenges still need to be addressed to fully develop its potential (Oh et al., 2023). Among them lay the fact that people usually perceive foods made by high-technological production processes with suspicion, seeing them as unnatural (Mina et al., 2023). Thus, it is important to analyse public perception to understand the potential role these technologies will play in future sustainable food systems.

### OBJECTIVE AND HYPOTHESES

This study aims to understand if the reasons for and against vertical farming adoption influence consumer attitudes and intentions towards these products. To analyse this research question, a model has been proposed starting from Behavioural Reasoning Theory (BRT) (Claudy et al., 2013; Westaby, 2005). Vertical farming products involve peculiar production techniques and context-specific reasons for and against compared to traditional agriculture. Therefore, this study aims to analyse if those reasons can attenuate how consumers perceive the technological implications of vertical farming products. While some authors have studied the role of reasoning for other food products (Ryan & Casidy, 2018; Tufail et al., 2022), showing the usefulness of this framework in understanding consumer behaviour, no previous studies have applied it to vertical farming products. Therefore, it is useful to test whether consumer attitudes and behaviour are influenced by the pros and cons of vertical farming products. To this end, a questionnaire was proposed to potential Italian consumers, with a final sample of 244 responses. The collected data were then analysed using PLS-SEM. Figure 1 reports the proposed model which has been derived from the one by Claudy et al. (2013) and adjusted for the specific context of this study.

The first aim of the model is to test whether the attitude toward vertical farming predicts consumer intention and behaviour (H1). Subsequently, the current study argues that consumer reasoning has significant effects on attitude. Specifically, it is analysed whether consumers who have strong reasons for (against) consuming vertical farming are likely to have a positive (negative) attitude toward it (H2). Westaby (2005), also postulates that reasons for and against could have a direct impact on behavioural intentions as people tend to use reasons to defend and justify their anticipated actions. Therefore, reasons for and against could have a direct, not-mediated effect on behavioural intentions (H3). BRT further proposes that reasoning does not happen independently from people's beliefs and values (Claudy et al., 2013). Therefore, this study aims to understand how sustainability values and beliefs influence reasoning in the context of vertical farming (H4), as well as if they have a direct effect on attitudes (H5).

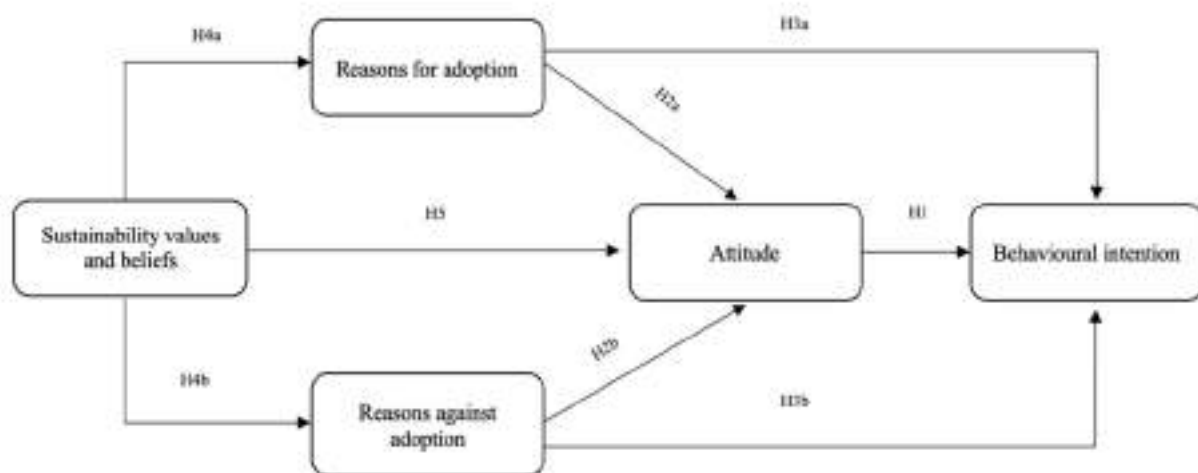


Figure 1: Proposed model

## MEASUREMENTS

To measure consumers' values and beliefs on environmental issues four statements related to the sustainability of food production were used (Juørkenbeck et al., 2019). Subsequently, three statements accounting for reasons in favour of vertical farming, and two accounting for reasons against vertical farming adoption were used (Mina et al., 2023). To measure consumers' attitudes towards vertical farming it was chosen to use two statements accounting for vertical farming technological features (Mina et al., 2023), and one statement accounting for how people perceive the future role of this production technique (Perambalam et al., 2021). This choice was made to test whether the reasons for and against it influence consumers' perception of vertical farming's high technological production process. All the statements were measured through a five-point Likert scale. To test the behavioural intention, respondents were asked to report with a three-point Likert scale whether they were

interested in purchasing vertically grown products. To evaluate the measurement and structural model it has been followed the procedure proposed by Hair et al. (2016).

## RESULTS AND IMPLICATIONS

The structural model results confirm that there is a positive and statistically significant relationship between consumers' attitudes toward vertical farming and behavioural intention to buy products in the future (H1). Interestingly, reasons for and against vertical farming influence how consumers perceive this technological production process (H2). On the other hand, the direct effect of reasoning on behavioural intention (H3) does not emerge as significant. Finally, environmental values and beliefs only influence the reasons for vertical farming adoption (H4a), while no significant effect has been found for the reasons against (H4b), nor consumers' attitudes (H5). Interestingly, the indirect effect of reasons for adoption on intention is positive and significant, showing the role of attitude as a mediator of reasons for adoption on behavioural intention. These results highlight interesting practical implications as they suggest that increasing information on the positive features of vertical farming could be an effective strategy to improve consumers' attitudes and behavioural intention to try these products in the future. This is especially true for sustainability-conscious consumers. Therefore, managers, as well as public policies, should address this issue to increase the acceptability of this food production technique. Theoretical implications include an increased knowledge in the field of behavioural reasoning theory, as well as proposing a new framework to explain how consumers perceive technology in food production.

*Keywords: Vertical Farming, Urban Agriculture, Consumer Acceptance, Behavioural Reasoning Theory, Structural Equation Modeling.*

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## HEALTHCARE PRACTITIONERS' PERSPECTIVES AND SERVICE ORIENTATION IN THE AGE OF DIGITALIZATION

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### ABSTRACT

This study maps the patterns of digital transformation within healthcare organizations and its implications on service quality. By examining the perceptions and experiences of medical professionals, the research highlights the challenges and barriers encountered during the process of organizational change. Employing a robust theoretical framework and an extensive literature review, the investigation delves into the dynamics of service orientation in the healthcare system and the significant impact of digitalization on service delivery. The aim is to provide a nuanced understanding of how advancements in technology are redefining the landscape of healthcare services, thereby underscoring the pivotal role of digital transformation in either enhancing or hindering the effectiveness of service provision within the healthcare sector.

Healthcare organizations are embedded within a multifaceted ecosystem influenced by various external factors, including policymakers, legislators, funders, competitors, and management teams (Counte et al., 2019; WHO, 2019). This array of elements, coupled with the ongoing pressure to curtail public health expenditure, fosters a precarious and competitive setting that significantly impacts the delivery and administration of health services. The situation is further complicated by financial constraints, prompting the health sector to seek innovative solutions and adopt business and managerial practices tailored to thrive in an increasingly dynamic and competitive marketplace (Counte et al., 2019; Naamati-Schneider & Salvatore, 2023). Therefore, in recent years, healthcare organizations have been navigating the challenges of the 21st century and the competitive landscape by increasingly adopting competitive strategic business models (Naamati-Schneider, 2021;2022).

This shift towards more commercially oriented strategies underscores the sector's efforts to improve service provision and operational efficiency against the backdrop of budgetary pressures and external competitive forces (Naamati-Schneider & Zaks, 2022)

Despite these strategies and efforts to stay competitive, there remains a notable variance in the adoption and implementation of these new strategies across the sector. Resistance among medical and administrative personnel is not uncommon, driven by concerns over the implications of integrating

business-oriented strategies into healthcare. This apprehension stems from a traditional view of medicine as being separate from, and even incompatible with, business practices. Such a perspective often raises ethical concerns, including the potential for increased inequity in healthcare access and delivery. These ethical dilemmas highlight the complex balance between advancing healthcare organizations' efficiency and competitiveness and maintaining the core values and equitable principles of medical practice (Naamati-Schneider, 2021;2022 Bin-Nun, 2019)

Digitalization stands out as a pivotal strategy for modernization and maintaining competitiveness within the healthcare system. The integration of new technologies inevitably triggers a cascade of organizational transformations aimed at enhancing performance, optimizing processes, and achieving more efficient resource utilization. By adopting technological advancements, organizations aim to establish a foundation of stability and sustainability, positioning themselves to better navigate the challenges of an evolving healthcare landscape (Schwab, 2017; Keasberry, 2017)

Digital technologies in healthcare, such as telemedicine and patient access to medical information through apps, have transformed service delivery and patient engagement, improving safety and care management. However, the costs and effects on mortality rates of such digitalization are yet to be fully understood. Despite the benefits, integrating new technologies poses challenges for both patients and healthcare providers, highlighting the complex impact of digital advancements in healthcare (Ricciardi et al., 2019; Sinsky et al., 2016; Sobral et al., 2015)

The findings from the research reveal a restrained acceptance of change at both systemic and organizational levels, with noticeable inconsistencies observed across these dimensions. Additionally, the study sheds light on the various obstacles and challenges impeding these change and development processes. These insights could prove invaluable for policymakers aiming to facilitate smoother transitions, reduce resistance, and foster a more customer-focused and service-driven ethos within healthcare settings. By implementing such changes, there is potential to enhance patient empowerment, ensure more judicious resource utilization, and improve customer value. Ultimately, these advancements could lead to greater efficiency and stability within the healthcare system, benefiting both patients and healthcare professionals alike.

*Keywords: Customer Orientation, Strategic Change, Digitalization In Healthcare, Hospital Management, Digitalization In Service Delivery, Digital Transformation*

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## ADVANCING NON-PROFIT HEALTHCARE THROUGH DIGITAL INNOVATION

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### ABSTRACT

Over recent decades, significant shifts have occurred due to technological progress, automation, and the rise of digital and virtual environments. Concurrently, there's an increasing realization that today's world is defined by its volatility, uncertainty, complexity, and ambiguity (VUCA), a concept that, while originating in military strategy, has found broad relevance in the field of management. This acknowledges the complex challenges organizations navigate in today's dynamic landscape (Otter, 2019).

This reality's implications, along with the need to address the global VUCA environment and its resulting intricate challenges, have significantly affected healthcare systems worldwide and the diverse organizations that constitute them (Worley and Jules, 2020)

Healthcare organizations are under constant pressure to develop and improve their operational strategies in order to survive in an environment characterized by constant change and intense competition (Naamati-Schneider, 2020;2021;2023) This imperative to adapt is driven by several dynamic factors, including significant shifts in population demographics that alter healthcare demands; economic trends that influence funding, affordability and resource allocation; and policy changes that mandate changes in practice standards and healthcare delivery models. At the same time, these institutions are engaged in a critical balancing act aimed at effectively managing public healthcare costs and achieving a sustainable model that ensures accessibility and quality of care for the population (Counte et al., 2019; Naamati-Schneider & Salvatore, 2023; WHO, 2019)

COVID-19 served as a pivotal catalyst, necessitating healthcare organizations to adapt and embrace digital solutions. This adaptation was driven by financial strains, notably from decreased revenue due to a decline in non-COVID patient services and the financial implications of pandemic management, which led to a significant reduction in cash flow (Argenziano et al., 2020; Naamati-Schneider & Zaks, 2022). In response to these challenges, the healthcare sector accelerated the adoption of telemedicine, underscoring the critical role of digital innovations in maintaining service delivery during the crisis (Salvatore and Fanelli, 2021).

Digital transformation is increasingly recognized as a vital strategy for organizational survival (Marques and Ferreira, 2020; Schwab, 2017; Kraus et al., 2021).

However, its implementation is often only partial, hindered by internal challenges and resistance. This scenario underscores the complexity of integrating digital technologies within established systems and cultures, where reluctance to change and operational obstacles frequently impede full-scale adoption (Naamati-Schneider & Salvatore, 2022)

The objective of embracing these processes of adaptation extends beyond enhancing business performance, user experience, and organizational processes. It also encompasses the adoption of innovative business models that can introduce advancements, stability, and sustainability within non-profit healthcare organizations. This multifaceted aim highlights the importance of not only refining existing frameworks and systems but also pioneering new approaches that can fundamentally transform the operational and financial paradigms of these entities, ensuring their long-term viability and effectiveness in delivering healthcare services (Marques and Ferreira, 2020; Schwab, 2017).

This study presents and map preliminary qualitative findings that explore the pivotal role of digital technology in catalyzing substantial organizational changes, with a focus on enhancing business processes and user experience. It posits that digital strategies represent a crucial lever for survival, empowering organizations to excel and deliver increased value to patients. Consequently, this leads to organizational sustainability within the turbulent healthcare industry, underscoring the strategic importance of digital transformation in ensuring long-term viability and success. The ramifications of these findings can be of great value to healthcare managers and key stakeholders as the digital transformation within not-for-profit healthcare organizations illuminates critical components necessary for successful deployment. By deepening knowledge and tackling these challenges, healthcare organizations can not only adjust to the evolving healthcare environment but also establish a robust platform for ongoing enhancement and innovation in patient services.

*Keywords: Hospital Management, Healthcare Market In Times Of Crisis, Digital Transformation In Hospitals*

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# UNRAVELLING THE INTERSECTION BETWEEN DIGITAL TRANSFORMATION AND SUSTAINABILITY IN BIO SOCIO-TECHNICAL TRANSITIONS

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## ABSTRACT

*This study explores how value is generated and harnessed at the convergence of digital transformation technologies and sustainable business strategies, particularly when integrated into decision-making support tools for optimising unified data availability across organisational boundaries. **Objective:** examines whether success in uncertain times increasingly hinges on company's capacity to execute a "twin transformation," discovering new values at the crossroads of digital technology and sustainability to bolster competitiveness. **Theoretical underpinning:** encompasses the resource-based view, depicts firms as unique bundles of assets and resources capable of creating competitive advantages through distinctive utilisation. Socio-Technical theory which emphasises the interconnectedness of an organisation's social and technological subsystems within its environment. Additionally, the dynamic capability perspective, emphasising firm's ability to integrate, build, reconfigure internal and external competencies to address rapidly changing environments. **Qualitative methodology** is employed, gathering empirical data from a diverse range of industrial partners, including Multinational Enterprises, Small and Medium-Sized Enterprises, and four cluster organisations comprising over 300 member companies. **Findings** indicate that companies recognising and leveraging value at the intersection of digital technologies and sustainability, termed Twin Transformers, are significantly more likely to emerge as top performers in the future. Despite Sweden's early lead in sustainability, few companies are actively pursuing this transformative path. **Concluding remarks and implications:** It underscores the imperative for companies to shift from a myopic perspective and embrace the full potential of twin transformation. **Originality:** highlights conceptual novelty of integrating sustainability and digital technologies as critical drivers of future competitiveness for firms, a perspective currently absent in existing literature.*

*Keywords: Digital transformation; Twin Transformers; Sustainability; Twin transformation; Digitalisation; Socio-Technical Theory; Business transformation; Twin transition.*

## LEADERSHIP PRACTICE OF CROSS CULTURAL AND NATIONALLY DISPERSED TEAMS - EMPIRICAL CASE STUDY

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### ABSTRACT

Virtual collaboration is becoming more common, with teams spanning nations and time zones to achieve goals. Diverse teams, whether national or culturally dispersed, have shown high creativity and innovation when they choose to share knowledge and collaborate. Leaders must develop new skills and strategies to effectively manage such teams, promoting awareness of diversity and inclusive leadership.

**Purpose** – The purpose of this paper is to explore leadership practice in global organizations with diverse and culturally dispersed teams.

**Design/methodology/approach** – The study used an explorative qualitative methodology, collection of data was made in a case study, using non-participant field observations from 12 days of leadership training programs with 77 leaders in a global organization. Data was categorized using thematic analysis.

**Findings** – The findings underscore the importance of promoting diversity awareness and effective communication for collaboration. Operations strategically leverage diversity, providing structural guidance for inclusive leadership to foster innovation and collaboration.

**Practical implications** – This study offers practical findings of the complexity of global management and diversity, this study offers empirical findings supporting the need of cultural intelligence, offering theoretical frameworks and practical leadership tools to consider.

**Originality/value** – This paper contributes to the contemporary understanding of leadership practices, particularly in the realm of diversity management in global organizations. Future researchers are encouraged to explore collaboration and trust, connected to “Multiple belongings” and “Multiple goals” to further refine practical leadership approaches in complex global projects.

*Keywords: Cross-cultural interactions, Cross-cultural teams, Inclusive leadership, Diverse management, Knowledge management, Virtual teams*

## **RESILIENCE AND BUSINESS ECOSYSTEMS: A SYSTEMATIC LITERATURE REVIEW**

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### **ABSTRACT**

Resilience and business ecosystems are two concepts receiving growing academic and practitioner attention. Increased market dynamics, environmental disasters, and economic instability have contributed to an increased discussion on how to address resilience in the management and business field. This study departs from the need to understand how organizations and people work together in a crisis in a highly dynamic and interconnected environment at all levels. Understanding how organizations manage a crisis to reduce its negative impact is essential. To be prepared for crises, firms need to adapt and innovate, needing to have the resources and capabilities to implement changes and benefit from new opportunities (Mouzas and Bauer, 2022). Today, continued success rides on resilience, on the ability to dynamically reinvent business models and strategies as circumstances change to continuously anticipate and adjust to changes (Hamel and Valikangas, 2003, Morais-Storz and Nguyen, 2017). Bondeli and Havenvid (2022) describe resilience as “the capacity of a firm to prepare for and rebound from setbacks by managing and adjusting its interaction patterns to its specific network and institutional contexts in a way that enables it to survive, adapt and grow in the face of turbulent change”. It is within sense of interrelations and interdependence that we aim to bridge the resilience concept with the ecosystem concept. The term “ecosystem” was adapted from biology to the business context by (Moore et al., 1993), as an analogy to describe the interdependence and co-evolution that characterize contemporary business activities. Ecosystems are based on reciprocally interdependent relationships, and the study of these interactions between firms in a B2B context is still largely absent from research in this area (Hakala et al., 2020, Breslin et al., 2021). Indeed, firms are not isolated, and given the market dynamics and changing environments, it raises the need for broader boundaries. The ecosystem approach does not only include the direct and indirect actors connected to a network but also independent actors, technologies, and institutions operating in the broader ecosystem. Within this context, our study aims to contribute to the ongoing discussion on resilience as a dynamic attribute and its effect on the birth of a “resilient ecosystem”. This paper presents a systematic literature review developed to analyse studies on resilience and ecosystem. The central contribution of this study is to show the state of the art about resilience and the ecosystem and how it can be related to potential avenues for future research in this area. Results indicate an increase in the number of articles for the two fields separately: resilience and ecosystems. By bridging the two

concepts, we conclude that the main research fields bringing together the two concepts are: Resilient Innovation Ecosystem (RIE), Resilient Entrepreneurial Ecosystem (REE), and Resilient Service Ecosystem (RSE). We propose further research about the substance, outcomes and management of RIE, REE and RSE. We found that although it exists an arena for each stream, they are intertwined. Furthermore, our work demonstrates that research bridging these two theoretical areas is scarce, which is an opportunity to develop the literature.

*Keywords: Resilience; Ecosystem; Resilient Innovation Ecosystem; Resilient Entrepreneurial Ecosystem; Resilient Service Ecosystem; Systematic Literature Review (SLR)*

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**THE MEDIATING ROLE OF PSYCHOLOGICAL EMPOWERMENT IN THE  
RELATIONSHIP BETWEEN INCLUSIVE LEADERSHIP AND EMPLOYEES'  
INNOVATIVE BEHAVIOUR IN A SAFE PSYCHOLOGICAL ENVIRONMENT**

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**ABSTRACT**

The present study examines the mediating role of psychological empowerment in the relationship between inclusive leadership and employees' innovative behaviour in a safe psychological environment. Scholars have posited that employee innovation is influenced by both internal and external factors, and that managers' leadership has a significant impact on employee innovative behaviour (Javed et al., 2019; Khan et al., 2020; Liu et al., 2023; Mehmood et al., 2020). A significant proportion of research in the field examines the relationship between managers and employees and how different leadership styles affect employees. However, there appears to be a lack of clarity regarding which leadership styles have the greatest impact on employee innovative behaviour. A substantial body of research explores the relationship between leadership style and employee innovation behaviour; nevertheless, the majority of these relationships are studied using classical leadership styles such as transformational, transactional, authentic, or laissez-faire leadership. In comparison to more established leadership styles, the concept of inclusive leadership is relatively novel. Consequently, the research investigating the relationship between inclusive leadership and innovative employee behaviour remains limited and requires further investigation (Liu et al. 2023; Mehmood et al., 2020; Randel et al., 2018).

In order to ascertain the efficacy of novel styles, it is imperative to conduct rigorous scientific research on their impact on employees' innovative behaviour. Inclusive leadership is defined by openness and inclusivity, which can facilitate the establishment of trust and garner the support of employees (Roberson and Perry, 2022). This, in turn, can lead to employees feeling respected and empowered (Wang et al., 2021), fostering their innovative potential and encouraging innovative behaviour (Zhang and Zhao, 2024). The scientific literature highlights the importance of psychological empowerment in promoting employees' innovative behaviour (Javed et al. (2019), Khan et al. (2020), Liu, et al. (2023), Mehmood et al. (2020), Zhang and Zhao (2024)). However, there is a paucity of research on how inclusive leadership, mediated by the aforementioned psychological empowerment, can help



employees to innovate. Consequently, this study aims to ascertain whether psychological empowerment serves as a mediator in the relationship between leadership style and employee innovative behaviour.

Furthermore, a moderator was selected to enhance the study, namely a safe psychological environment within the team. Previous research has demonstrated that a positive impact on employees' inclination towards innovative behaviour can be achieved in such an environment (Bani-Melhem et al., 2018; Liu et al., 2023; Miao et al., 2019). Therefore, this study examines the effect of psychological safety on the relationships between the constructs. This study employs an empirical approach to investigate the relationship between inclusive leadership, psychological safety, psychological empowerment and employees' innovative behaviour. The study presents, for the first time, the theoretical mechanism through which inclusive leadership affects employees' innovative behaviour and constructs a theoretical mediation model.

The aim of this study was to address the aforementioned gaps by employing a quantitative research method, utilising a survey questionnaire. The questionnaire was developed using scales from Carmeli et al. (2010), Janssen (2000), Edmondson (1999) and Spreitzer (1995). Data from 220 anonymously completed questionnaires, obtained through a random sampling method, were analysed using IBM SPSS software to test the hypotheses as follows:

H1: Inclusive leadership has a positive influence on innovative behavior of employees at work.

H2: Psychological safety in the team moderates the relationship between psychological empowerment and innovative behavior at work: the greater the psychological safety in the team, the greater the influence of psychological empowerment on innovative behavior of employees at work.

H3: Team psychological safety moderates the relationship between inclusive leadership and employee innovative behavior: the greater the psychological safety in the team, the less inclusive leadership impacts innovative behavior of employees at work.

H4: Psychological safety in the team moderates the indirect relationship between inclusive leadership and innovative behaviour through the mediating role of psychological empowerment.

In conclusion, all four hypotheses of the study were validated: inclusive leadership consistently exerts a positive influence on innovative behaviour. This is evidenced by the direct effect of the variable on the dependent variable ( $t=6.311$ ,  $p<0.00$ ) and the moderating influence of psychological safety. Thus, the second hypothesis, which posited that psychological safety in the team moderates the relationship

between inclusive leadership and innovative behaviour ( $t = -2.1907$ ;  $p = 0.0295$ ), was also confirmed. Meanwhile, the statistical analysis indicates that the effect of leadership on innovative behaviour decreases as psychological safety increases. The third hypothesis, that psychological safety in the team moderates the relationship between psychological empowerment and innovative behaviour, was also supported ( $t = 3.1651$ ;  $p = 0.0018$ ). The statistical analysis confirmed that as psychological safety increases, so does the effect of empowerment on innovativeness. Hypothesis four, which posited an indirect relationship between inclusive leadership and innovative behaviour, mediated by psychological empowerment, was also supported (Index = 0.0987, BootLLCI = 0.0341, BootULCI = 0.1738). The statistical findings demonstrate that as psychological safety rises, the indirect influence exerted by inclusive leadership on innovative conduct through psychological empowerment increases as well.

The findings of this study demonstrate that all relationships between variables in the model have been empirically validated. The results of this research confirm the previously identified direct relationship between inclusive leadership and innovative behaviour (Javed et al., 2019; Mansoor et al., 2021; Sürücü et al., 2023). While this relationship is significant, psychological empowerment also plays an important mediating role, as our study has revealed. This finding is significant, as previous studies have only identified a direct relationship between psychological empowerment and innovative behaviour (Singh and Sarkar, 2012). Furthermore, the relationships between inclusive leadership and innovative behaviour are enhanced when psychological empowerment is taken into account in our model. The results of our research indicate that psychological empowerment is a crucial factor for organizations to cope effectively with the challenges presented by a volatile environment. Finally, our study indicates that psychological safety serves to moderate the relationship between inclusive leadership and psychological empowerment with innovative behavior. This factor has not yet been studied in this context, and our study has demonstrated that psychological safety can positively moderate the relationship between inclusive leadership and innovative behavior, as well as psychological empowerment.

This study has delineated and explicated the crucial role of a specific, inclusive leadership style in managing employees' innovative behaviour. This finding is of importance to both corporate leaders and middle management, as it signals a shift in the way these groups should manage employees. It can be concluded from this study that inclusive leaders should prioritize the psychological empowerment of company employees. Ultimately, managers should allocate sufficient resources for the creation of a positive and safe work environment for their employees as this is an essential factor for companies seeking to remain innovative both in the present and in the future. The findings of the

study indicate that an inclusive leadership style and employee innovation behaviour are significant factors in the achievement of long-term human resource management programmes and organisational goals. This provides a theoretical reference for companies to manage their employees and stimulate their innovative behaviour, thus making their human resource management practices more resilient.

*Keywords: inclusive leadership, innovative behavior, psychological safety, psychological empowerment.*

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## DIGITALIZATION FOR SERVICE QUALITY IMPROVEMENT

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### ABSTRACT

#### PURPOSE

Digitalization has become a challenge and an opportunity for companies. Up to now, some previous studies have analyzed the influence of innovation on digital transformation (Suder *et al.*, 2022; Zaragoza-Saez *et al.*, 2024), while others have examined the impact of digitalization on innovation (Tsou and Chen, 2023; Lu *et al.*, 2023). However, it is still an emerging topic and there is little research that analyze the effect of digitalization on the competitiveness of companies, in general, and in the hotel industry in particular. The purpose of this study is to analyze: a) the direct relationship between digitalization and service quality in hotels, and b) the indirect relationship between these variables via incremental and radical innovation.

#### METHODOLOGY

To achieve this purpose, a structural equation model is analyzed using Partial Least Squares (PLS). A postal and online questionnaire was sent to the population of hotels from 1 to 5 stars in the Valencian Community (Spain) (786 hotels) in three waves in 2023. A pretest was performed. Finally, 268 establishments responded to the questionnaire (34.1% response rate, 4.86% sampling error for a 95% confidence level). The variables measured based on previous literature were the following: digitalization (6 items), incremental innovation (6 items), radical innovation (6 items), and service quality (6 items). All variables were measured using a 7-point Likert scale. Chain affiliation, hotel size, and category were used as control variables.

#### FINDINGS

The results show that digitalization has a positive and significant effect on innovation (incremental and radical) and on improving service quality in hotels. Likewise, it is found that innovation plays a mediating role between digitalization and service quality. There is a partial positive mediation of innovation (incremental and radical).

## CONTRIBUTIONS

This study contributes to increasing knowledge about how digitalization is related to the improvement of hotel service quality through incremental and radical innovation. From the point of view of business management, Spain is a leading country in the tourism sector, and its companies must be capable of leading this digital transformation. With this study we provide empirical evidence that digitalization can help innovate in hotels, and in this way increase their competitiveness through improving service quality. Therefore, hotels must take advantage of this digital transformation as an opportunity.

## ACKNOWLEDGMENTS

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*Keywords: Digitalization, innovation, service quality, hotels*

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## FINANACIAL RESILIENCE OF MANUFACTURING SMALL AND MEDIUM ENTERPRISES IN PORTUGAL

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### ABSTRACT

Objective – The COVID-19 pandemic severely impacted the global economy, raising questions about how firms, particularly SMEs, can remain resilient in extreme uncertainty. Resilience has gained renewed attention, especially in understanding how companies can survive, grow, and maintain successful businesses during crises. Organizational resilience involves the ability to anticipate, respond to, and recover from disruptions, with financial resilience being a key aspect. Financial resilience refers to the capacity to adapt to changes and shocks by managing resources effectively to survive and seize opportunities. Due to the impact of the pandemic on the global economy and Small and Medium Enterprises (SMEs) in particular, managers and researchers have been interested in understanding what organizational and financial resilience is, how they are related, and how to achieve such desirable features, especially within an uncertainty environment. The main objective is to investigate specific firm characteristics that may explain SME financial resilience in the manufacturing sector in Portugal from 2005 to 2021. This study aims to explore SME financial resilience in Portugal's manufacturing sector from 2005 to 2021. It investigates the relationship between firm characteristics—such as financial slack, operational leverage, internationalization, size, and age—and financial resilience, as well as the impact of the 2008-2011 financial crisis and the 2020-2021 pandemic crisis.

Design/ Methodology – A quantitative research design with logistic regression analysis is applied, using secondary account-based data extracted from the SABI database from 2006 to 2021. The Resource-Based View (RBV) is a prevalent theoretical foundation in financial resilience studies and it is used in this study. Hillmann (2021) suggests that resilience research enriches the RBV and dynamic capabilities debates by offering insights into why some companies survive and thrive. Financial resilience studies often examine the role of financial, human, and political resources under the RBV, as resource availability is crucial for resilience (Lee & Chen, 2022; Leuridan & Demil, 2022).

Results – For each unit increase in the variable cash, the chance that SME in the sample belongs to the resilient category increases about 28.8 times. Regarding firm size, with each unit increase in this variable, the chance of the SME belonging to the category of resilient companies increases by approximately 35.1%. For the year 2020, 45% of the SMEs were categorized as resilient, with the

highest proportion found in food manufacturing (45%), followed by fabricated metal products (43%) and textiles (28%). Geographically, North Portugal had the largest number of resilient SMEs (53%), followed by Centre Portugal (24%) and Lisbon (20%). Descriptive statistics revealed that resilient SMEs maintained a higher proportion of financial slack, averaging 10% of assets compared to 6% for non-resilient SMEs. Additionally, non-resilient SMEs had higher operational leverage on average. The logistic regression analysis showed that increased financial slack and larger firm size were positively associated with resilience, with odds of resilience increasing by 28.8 times and 35.1%, respectively. On the other hand, higher operational leverage, greater internationalization, and older firm age were negatively associated with resilience, reducing the odds by 86.4%, 26.3%, and 42%, respectively. Both the financial and pandemic crises significantly decreased the odds of resilience, with the pandemic having a more severe impact. Concerning both crises, results suggest that the chances of an SME belonging to the resilient category were lower during the pandemic than during the financial crisis of 2008-2011.

Practical implications – This study contributes by providing a discussion of organizational and financial resilience theoretical and empirical approach. Regarding the empirical contributions, this study aims to provide insights into SMEs' financial resilience during the Covid crisis period. This study is also expected to provide insights to academic researchers and public policymakers, especially into how to stimulate SMEs' resilience in crisis period.

*Keywords: SME; Financial Resilience; Financial performance; ROA; Covid crisis.*

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## SCIENCE MAPPING ON GENDER PARITY LAW AND POLITICAL EQUALITY: EMPHASIS ON PORTUGUESE GOVERNMENTS STUDIES

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### ABSTRACT

**Objective** – Gender disparities in various societal sectors are well-documented (Pilkina & Lovakov, 2022). Although women’s representation in top positions has increased (Simone et al., 2018), they remain under-represented in global politics (Dhima, 2022; Profeta & Woodhouse, 2022). As of January 2021, women held 25.5% of national parliamentary seats, up from 24.9% in the previous year, but still lower than 11.7% in 1997 and 19.2% in 2013<sup>1</sup>.

Gender quotas have been implemented in many countries as a solution (Rosen, 2017). In 2020, 25 out of 57 countries with elections had gender quota systems (Inter-Parliamentary Union, 2021). These quotas, initially intended as temporary measures, set legal minimums for female representation to correct gender imbalances (Spaziani, 2022).

In Portugal, the Parity Law (Organic Law nº3/2006) mandated 33% female representation on candidate lists. It was updated in 2019 to a 40% minimum threshold, with stricter penalties for non-compliance. Despite these laws, gender inequality persists due to factors like the glass ceiling (Folke & Rickne, 2016), party strategies (Verge & Espírito-Santo, 2016a), and cultural resistance (Amâncio & Santos, 2021).

This paper *conducted a scientific mapping on gender parity law and political equality and aims to provide an overview of the state of the art in this thematic area to better understand its evolution, characteristics, and central debates with an emphasis on Portuguese government studies.*

**Design/ Methodology** – This study uses science mapping to analyze gender representation research, focusing on global and Portuguese contexts, and *use a sample of 2435 articles published from 1958 to 2022, retrieved from the Web of Science (WoS) and Scopus databases results.*

The research questions of this study are:

- What are the characteristics of the global research sample, including publication trends, countries, knowledge areas, journals, authors, and topics?
- What are the conceptual and intellectual structures in this field?
- What are the key studies on gender parity and political equality in Portuguese government contexts, and what are their main contributions?

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<sup>1</sup> Data retrieved from Inter-Parliamentary Union



**Results** - *The sample analysis showed the growth in the number of articles published on gender parity law and political equality, especially in the last decade, representing about 76.5% of the total articles published. The results showed that scientific production by country is higher in the US, followed by the UK. However, from the perspective of the continents, Europe leads the scientific production in this area. The studies that investigated this theme only in the Portuguese context focused mainly on the reasons for adopting the parity law in Portugal, its impact on the women's representativity in political bodies, and how society interprets them. Few studies analyzed the Portuguese context, and the reality of local government is under-researched compared to the national government. The analysis suggests that increasing women's representation in local government is crucial for diverse and effective decision-making. Future research should expand to include quantitative studies in fields like accounting and finance to assess the financial impact of female political representation. Additionally, employing diverse bibliometric techniques could further advance understanding in this area. Despite the comprehensive nature of the databases used (WoS and Scopus), incorporating a broader range of sources, such as Google Scholar, could address potential limitations in the analysis.*

**Practical implications** – Science mapping helps understand the intellectual structure and trends in scientific research, guiding policy-making and identifying research gaps (Aria & Cuccurullo, 2017; Ellegaard & Wallin, 2015). This study, based on 2,435 articles from WoS and Scopus, aims to advance understanding of gender political representation and inform legislative processes. The study also contributes to the growing literature on gender political representation. It provides a better understanding of their role as determinants on *gender parity law and political equality*.

*Keywords: Gender; Parity Law; Political Equality; Women Political Representation; Portuguese Local Governments; Portuguese Governments; Science Mapping; Scopus; Web of Science.*

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## THE EFFECT OF INDUSTRY 4.0 ON ENTREPRENEURIAL ECOSYSTEMS: AN INTERNATIONAL PERSPECTIVE

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### ABSTRACT

In the last decade, entrepreneurial ecosystems (EE) have attracted increasing attention from researchers, managers, and policymakers as important instruments to achieve long-term economic growth (Henn et al., 2022; Rocha & Audretsch, 2022). Although, researchers do not share a unified definition of an EE, it is rooted in the cluster literature (Bouncken & Kraus, 2022; Rocha & Audretsch, 2022) and can be described as a “set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship within a particular territory” (Stam, 2015). Theodoraki and Catanzaro (2022) highlight four axes that frame entrepreneurial ecosystems literature, namely, the structural axis, the systemic axis, the spatial axis and the evolutionary one.

The structural axis is crucial to identify and characterise the composing actors and elements of EE and propose a configurational-based approach (Theodoraki & Catanzaro, 2022). The second axis, the systemic one, further enriches the configurational approach by emphasising on the different dynamics and interactions established among the actors and elements (Ferreira et al., 2023; Theodoraki & Catanzaro, 2022). The spatial axis anchors the EE in a specific local or regional context and considers EE as an outcome of territorial strategies (Acs et al., 2017). The evolving process and the temporal maturity of the EE lies in the last axis, namely the evolutionary one. It allows to explain how EE has evolved over time depending on the culture, history and institutional settings (Mack & Mayer, 2016). Yet, most studies neglect the last two axis and consequently we lack a dynamic view of entrepreneurial ecosystems (Theodoraki et al., 2023; Walsh, 2019) and its spatial evolution. However, understanding the EE evolution processes in response to contextual changes is an indispensable prerequisite. It will ensure EE sustainable development and mitigate the gap between practice and theory (Colombelli et al., 2019; Theodoraki et al., 2023).

Most of the contextual changes arising in today's global economy are induced by the adoption and use of innovative digital technologies, known as Industry 4.0 (I4.0). I4.0 has significantly affected entrepreneurship and their ecosystems (Ratten, 2020). In particular, with research suggesting that I4.0 can support globalisation and others that it can hinder it, such technologies are predicted to question

the geography of firms' activities (Bettioli et al., 2021). However, little is known about how I4.0 transforms EE morphology in terms of activity and member location over time (Götz, 2020; Grashof et al., 2021; Kolagar et al., 2022). To capture a broader context of the possible consequences of I4.0 regarding the evolutionary and spatial axis, this research calls for a "glo-cal" approach and an international lens (Theodoraki & Catanzaro, 2022).

The research will be conducted in the automobile / mobility solutions industry in both France and Italy. Two EE will be studied using qualitative analysis based on secondary data (i.e. members' list and addresses and press releases over the years) and semi-structured interviews to better understand how Industry 4.0 impacts the spatial and evolutionary axes of entrepreneurial ecosystems. The first EE selected is located in a north-west region of Italy called "Piedmont". It has been historically the centre of Italy's industrial economy, gathering major industries. In particular, it is the cradle of transportation and automotive production (Pezzini et al., 2007). The second EE is located in an Est region of France called "Rhône-Alpes-Auvergne". It is the first Industrial region in France, and represents 14.7% of the French employment (Service Intelligence Economique et Territoriale, 2021). The European EE for mobility solutions "CARA" is located there (*CARA European Cluster for mobility solutions*, 2024).

Findings will be synthesised in a conceptual model which highlights the evolution of the EE morphology and depicts the role of Industry 4.0 technologies. The findings of the research will allow to present theoretical, managerial and policymakers implications. First, by conceptualising the effect of I4.0 on EE morphology using an international lens, the paper will participate in the scholarly conversation on the current EE overlapping and fragmented view. Results may provide additional evidence to differentiate it from related concepts such as clusters (Theodoraki et al., 2023) and allow scholars to draw future promising research. Second, results will create interesting insights for managers and policymakers to understand the entrepreneurial arising challenges and adapt current policies.

*Keywords: Industry 4.0, Entrepreneurial ecosystems, International, evolutionary perspective*

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## **MEDIA PRESENTATION OF THE DEVELOPMENT AND REGULATION OF ARTIFICIAL INTELLIGENCE ON THE MOST READ CROATIAN PORTALS**

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### **ABSTRACT**

At the end of 2022, OpenAI launched the chatbot ChatGPT, which popularized the subject of AI, but also discussed the possibilities of application and its positive and negative aspects. In parallel with highlighting the positive characteristics of the development of AI, the negatives were also noticed, which led to a discussion on the issue of regulation of AI.

The aim of the paper is to gain an insight into the media image of the development and regulation of artificial intelligence by researching and analyzing articles on the most read portals in the Republic of Croatia.

For the research period, one year was taken, starting from the day of the release of the chatbot ChatGPT to the public, November 30, 2022 until November 30, 2023. The research included 175 articles. The paper uses the method of content analysis. Using quantitative content analysis, the frequency of articles, topic of articles, geographical focus, journalistic approach and authorship of articles were analyzed. In order to gain an insight into the content of the articles, a qualitative content analysis was used to analyze a selected number of articles. The researched portals showed an interest in following the topic of development and regulation of artificial intelligence, writing about innovations, general topics, fraud and abuse, application and strategy of AI development, fear of uncontrolled development and other related topics on a dominantly European and global, and to a lesser extent, national level. The paper contributes to the research of media coverage of artificial intelligence.

*Keywords: AI, ChatGPT, content analyse, Croatia, Newsportals*

## DEVELOPING AUGMENTED REALITY WITHIN E-COMMERCE PLATFORMS : A STRATEGIC RESOURCE FOR CREATING VALUE.

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### ABSTRACT

**Objective** - This article examines the role of augmented reality (AR) in the value creation process of businesses. Through lived experience, this study explores how AR generates new and strong value and increases value capture through sales and recommendation.

**Design/Methodology/Approach** - A model based on the theories of self-determination and the AWE (awe, wonder, and excitement) experience was developed and tested using a sample of 577 respondents. The survey results were derived from structural equation modeling using SmartPLS 4.0 software.

**Results** - The main findings demonstrate that the interactivity and excitement generated by the technology foster the AWE experience. In turn, the AWE experience enhances satisfaction, trust, and encourages purchase and recommendation. These conclusions raise awareness among professionals to further utilize this technology in their omnichannel strategies. With augmented reality, virtual platforms are more engaging, offer enriching experiences, and increase value.

**Originality/Value** - The numerous technological pressures are transforming ecosystems and thereby the value creation processes of businesses. Consequently, augmented reality becomes a strategic resource for them to master. Few works, to our knowledge, address the strategic dimension of augmented reality even though it is increasingly necessary for gaining a competitive advantage. By mastering it, companies can better integrate it into their value creation and capture objectives.

*Keywords : Augmented reality, Value creation, AWE experience, Satisfaction, Purchase intention, Intention to recommend.*

# BUSINESS MODEL INNOVATION THROUGH THE DIGITAL MATURITY LENS: EXHIBITION ORGANIZER'S PERSPECTIVE

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## ABSTRACT

With a rapid development of digital technologies, the significance of partnership between event organizers and service suppliers is growing. The opportunities provided by digital technologies should be factored in when innovating the exhibition organizer's business model. The main goal of the study is to propose a conceptual framework for studying event organizer's business model through the digital maturity lens as one of the key determinants on the path of digital transformation. For each determinant the study describes and discusses some relevant variables that could be used by managers and exhibition organizers to get in-depth understanding how they can innovate their business model.

By applying the mixed method combining quantitative and qualitative research based on the interviews with the leading organizers of trade shows and exhibitions the study systematically analyzed the innovation of the exhibition organizer's business model and the process of reshaping relationships within its business ecosystem on three levels: organizer - partners, organizer - exhibitor and organizer - visitor.

The results indicated that such digital maturity determinants as dynamic capabilities and ecosystem adapted for the event industry can be applied to measure the effect of digitalization on the exhibition organizer's business model. Digital literacy, usage of digital platforms and implementing digital strategy can define the innovative business model, reshaping the network configuration within the organizer's ecosystem. While the digital platforms variable has the strong effect on the exhibition organizer's network, the effect is not unambiguous. There are also barriers preventing the organizer from getting its business model innovated.

*Keywords: Digital maturity, Business model, Event industry, Exhibitions, Digital technology*



## THE INTERPLAY OF PERCEIVED DIVERSITY, EQUITY, WORK ENGAGEMENT, AND PERFORMANCE: A SEQUENTIAL MEDIATION MODEL

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### ABSTRACT

In the dynamic business era, corporate efforts in cultivating a positive diversity climate have surged over the past two decades. While diversification is often viewed as a strategic maneuver, there is a notable debate in evidence regarding its multifaceted impact on business success. To bridge this critical gap, this study draws upon the categorization-elaboration model (CEM) to investigate the impact of perceived knowledge diversity on employee performance mediated by job equity and work engagement. Furthermore, it deploys a sequential mediation model to empirically explore the sequential effects of mediating variables on the dependent variable. Following a cross-sectional survey research design, the data was collected from 184 employees working across various organizations in India. Descriptive statistics and measurement model were analyzed using SPSS 22.0 and AMOS 27.0, respectively. Additionally, hypotheses testing was conducted using Mplus 7.4. Results revealed that perceived knowledge diversity positively impacted individual work performance directly and indirectly via job equity and work engagement. Moreover, the sequential mediation model was validated by the observation that job equity positively impacts work engagement. This study contributes to the existing literature by proposing a comprehensive model elucidating organizational outcomes of perceived knowledge diversity and putting forth some important practical implications for diversity management policies and practices in the workplace.

*Keywords: Diversity in global business environment, job equity, work engagement, job performance, DEI in business, perceived knowledge diversity, transformation*

## HAPPINESS AND WELFARE IN CORPORATE SOCIAL RESPONSIBILITY (CSR) IN IRAN

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### ABSTRACT

### INTRODUCTION

Recently, there has been a growing interest in the concepts of welfare and happiness. Initially, these discussions were primarily reserved for the domain of philosophy. However, over time, other scientific disciplines have increasingly engaged with this topic (Rela et al., 2020). Empirical studies have since focused on happiness, particularly within the fields of physiology, social and personality psychology, and sociology (Núñez-Barriopedro et al., 2020). Today, disciplines such as politics, economics, and corporate social responsibility (CSR) have developed substantial bodies of knowledge concerning employee welfare, satisfaction, and happiness.

Across all scientific disciplines, a common distinction is made between external and internal models of satisfaction, happiness, and welfare. Satisfaction is understood as a feeling derived from the process of interpreting and evaluating outcomes against expectations. In many countries, satisfaction is considered one of the most crucial variables for achieving long-term business success (Ardakani et al., 2015). External happiness, or happiness "from the outside," is associated with objective conditions such as material prosperity or consumption (Yoshida et al., 2021). Conversely, happiness "from within" is a state dependent on internal, subjective judgments. In the context of research on business organizations and empirical findings on prosperity and welfare, it appears reasonable to treat happiness "from within" as a phenomenon of internal states that are partially influenced by external factors such as welfare and well-being (Rodríguez et al., 2020).

According to the World Happiness Report (WHR), there has been a significant surge in interest in happiness, especially in response to the challenges posed by global health crises. This underscores the universal desire for happiness. From this perspective, CSR plays a crucial role in fostering welfare and happiness within society. This role is not only about the current efforts but also about enhancing the corporate image of companies committed to the well-being of their human capital and stakeholders. This commitment operates under the philosophy that monetary benefits are not mutually exclusive with the guiding principles of corporate social responsibility, environmental respect (Basile et al.,

2022), emotional consumption, and happiness management (Ravina-Ripoll et al., 2019). Therefore, the primary aim of this work is to examine CSR through the lens of happiness and welfare.

## **LITERATE REVIEW**

If happiness is understood as a reflection of welfare, then companies and SMEs must adopt management models that integrate organizational, psychological, communicative, and social factors to foster corporate happiness and satisfaction within their organizations (Jiménez-Marín et al., 2021). Moreover, companies need to recognize that the term "happiness" can be used interchangeably with concepts such as subjective welfare, life satisfaction, and utility (Cuesta-Valiño et al., 2020). Research indicates that workers' happiness is closely linked to their performance, satisfaction, and sense of responsibility (Momparler et al., 2021).

In the current climate of rapid economic and social change, society increasingly demands socially responsible behavior from organizations (Tiwari et al., 2021). Implementing a management methodology that prioritizes satisfaction and welfare can guide organizations toward a more meaningful engagement with society. Therefore, the strategic objectives of companies and organizations should focus on maximizing the satisfaction of both their consumers and their human capital, as this represents a sustainable source of competitive advantage (Núñez-Barriopedro et al., 2021). Such an approach is inherently responsible and sustainable.

## **PURPOSE**

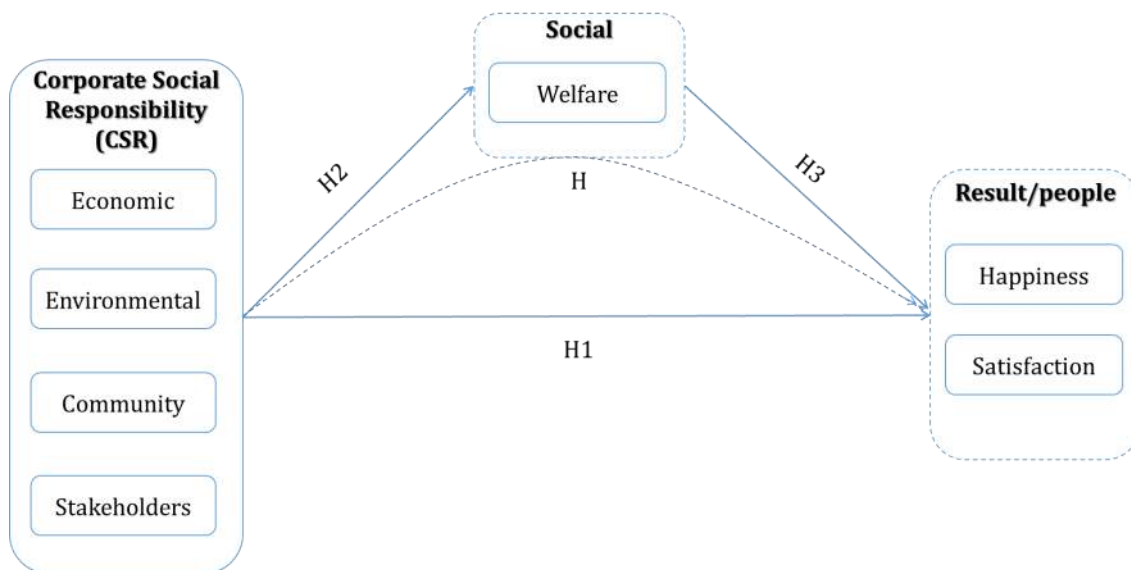
Such studies can have substantial practical implications for both practitioners and public administrations by helping them identify the significant economic and sustainable benefits that actions aimed at improving corporate satisfaction among creative talent can yield (Sorribes et al., 2021). Additionally, some perspectives suggest that enhancing satisfaction can pave the way for new management approaches and evolving conceptions of CSR, particularly in a world increasingly threatened by climate change (Ahmed et al., 2020).

Despite these academic advancements, there has been relatively little attention paid to the social role of CSR in relation to satisfaction, happiness, and welfare, especially in emerging countries like Iran. This gap highlights the need for further exploration of how CSR can contribute to societal well-being in these contexts.

Therefore, this work aims to contribute to the existing body of knowledge on CSR and its impact on social outcomes. Additionally, it seeks to establish welfare and happiness as key metrics and precursors for achieving social responsibility within CSR frameworks (García-Sánchez et al., 2021).

## EXPECTED RESULTS AND CONTRIBUTIONS

Through quantitative research conducted on a sample of SMEs operating in Ardakan city, Iran, the researcher developed a model where environmental, community, and economic activities contribute to social value creation while safeguarding people's happiness and welfare.



**Fig. 1 Conceptual framework – Author's Own**

The study answers the following research questions:

1. What is the role of corporate social responsibility in welfare and happiness?
2. What responsibilities does the corporation have in sustainability and corporate social responsibility?
3. How do firms in elaborating to improve social needs?

## HYPOTHESES

**H:** Corporate Social Responsibility (CSR) have a significant impact on happiness and satisfaction with the mediator role of welfare.

**H1:** Corporate Social Responsibility (CSR) have a positive impact on happiness and satisfaction.

**H2:** Corporate Social Responsibility (CSR) has a positive impact on welfare.

**H3:** Welfare has a positive impact on happiness and satisfaction.

## RELEVANCE

The work will improve the body of knowledge on corporate social responsibility, expanding welfare and happiness, and its impact on economic, social and satisfaction in an emergent country. Therefore, the scientific and managerial objectives are:

- To explore human resources and marketing policies to stimulate employees' work performance from a collaborative culture based on commitment, positive psychology, etc.
- To offer a corporate image of companies committed to the working passion of their human capital and the satisfaction of their customers under the guiding principles of corporate social responsibility, emotional consumption and happiness management.

From these perspectives, this study seeks contributions that highlight that the intangible resource of happiness and satisfaction will play a key role not only in the transformation of the green economy (Cuesta-Valiño et al., 2021).

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## WEBSITES

<https://worldhappiness.report/>

## HOW DOES THE UTILIZATION OF ARTIFICIAL INTELLIGENCE IN DIGITAL MARKETING AFFECT CUSTOMER RETENTION RATES WITHIN THE HOTEL INDUSTRY IN GREECE?

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### ABSTRACT

Lately, the hotel sector in Greece has experienced a momentous reformation due to the significance digital marketing holds in any marketing plan hotels decide to embrace (Kontis and Skoultzos, 2022). Regardless, the synthesis of artificial intelligence and digital marketing still remains a hidden treasure in the domain. During the past few years in Greece, the hospitality landscape has faced significant challenges in relation to retaining consumers, the most notable reasons being the heightened competition along with the continuously advancing digital marketing and AI procedures (Kontis and Skoultzos, 2022; Buhalis, Leung, and Lin 2023). To confront these barriers, hotels have steadily progressed towards utilizing artificial intelligence to enhance their digital marketing practices in order to boost the retention percentages of their consumers (Cuomo *et al.* 2021; Rusthollkarhu *et al.* 2022).

Generally, the incorporation of artificial intelligence in digital marketing has been broadly examined in scholarly works and, more particularly, its effect on the retention of consumers in the hospitality sector (Cambra-Fierro *et al.* 2021; Boddu, 2022). The benefits of integrating digital marketing and artificial intelligence contain enhanced consumer experiences and improved tailored capabilities. While continuous refinement and review are essential to guarantee the ethical undertaking and efficacy of these procedures (Dumitriu and Popescu, 2020). Procedures that are fueled by AI permit hotels to interpret and accumulate immense amounts of consumer information, permitting them to devise advertising campaigns specifically made to match the needs and desires of users (Kirtil and Aşkun, 2021; Lacárcel, 2022). Nevertheless, many argue that through the collection of consumer information there can arise ethical dilemmas. Owing to the reliance of artificial intelligence on immense volumes of user data, a central concern is the necessity for securing and isolating data; thus, firms must be able to guarantee that they assemble, process, and oversee client information attentively (Moradi and Dass, 2022; Hang and Chen, 2022; Khaliq *et al.* 2022).

The hospitality industry in Greece maintains an influential position in the nation's tourism sector, luring a myriad of visitors every year (Metaxas, Chatzoglou and Koulouriotis, 2019). Loyalty

schemes, consumer fulfilment, service rate and the general experience of consumers are vital aspects that influence the retention rates of their clientele. Hence, consumer loyalty is cultivated by hotel establishments that emphasize on providing tailored and superior services through their reputable brand awareness (Pantano *et al.* 2019; Bigne, Chatzipanagiotou and Ruiz, 2020). Throughout the increasing international contest between hospitality establishments, Greek hotels pursue inventive patterns and methods to maintain and entice clientele. Nevertheless, although some strived to adopt it, the majority of the Greek hotels have not yet endeavoured or even considered utilizing AI in their business. This is mainly due to the scarcity of knowledge from the owner or manager of each establishment (Samara, Magnisalis and Peristeras 2020).

What is more, this investigation's context accentuates the swift evolution of Artificial Intelligence and its prospective functions in the hotel sector, thus, underlining the demand for a data-driven study to properly comprehend the effect it may have on the retention of consumers. The purpose of this study is to further examine how the core AI tools (e.g., chatbots, tailored suggestions etc.) affect the consumer's commitment and engagement. With the accumulated information obtained using questionnaires, the author will be able to understand how the combination of AI and digital marketing can affect the consumer. Largely, this analysis can contribute applied solutions in the hotel sector in Greece, discoursing the fusion of digital marketing with artificial intelligence. Processes that are powered by artificial intelligence are able to nurture the commitment and augment the experiences of clients. This examination studies the viewpoints of consumers in Greek hotels on digital marketing and artificial intelligence, as well as their selections and awareness. This is indispensable for hospitality establishments that desire to satisfy the growing anticipations of their clients.

Apart from the aforementioned, the examination assesses the influence of Artificial Intelligence on retention ratios of consumers, unveiling possible advantages for hotels in Greece. Moreover, these understandings designate hospitality establishments to meet the preferences and fulfilment levels of clients more effectively, improve their services and augment loyalty rates. This analysis holds the capability to delve and contribute into the dynamics of Greek hotels, aiding both the sector and the academic world. To conclude, the purpose of this examination is to advise hotels in Greece to elevate the retention ratios of their consumers, use proper digital marketing methods fused with AI and empower them in order to confront the increased competition in the hotel industry.

By critically reviewing the existing literature, this examination closely dissected all the essential functions linked to digital marketing and AI and how the integration of them can affect the retention ratios of consumers in the Greek hotel sector. One of the main objectives was to assess the impact of artificial intelligence procedures in digital marketing on the retention rates of consumers in the Greek hotel sector. Altogether, the analysis adopted the quantitative research approach, with the



information being accumulated by distributing questionnaires to individuals, through social media platforms and email. This examination delivered practical insights for hotels in Greece, proposing the commission of strategies that are powered by AI and digital marketing in order to nurture the commitment and experiences of clients.

The outcomes of this analysis can aid the hotel sector in Greece and function as a stepping stone for prospective analyses, while donating to the academic circle. More specifically, prospective studies should conduct quantitative research but expand it over a span of years in order to facilitate the progression of these practices; and also implement interregional quantitative and qualitative analyses with the purpose of significantly extending the scope of this research. Some notable limitations of this research, encompass the emphasis on a single country, the fast progression of artificial intelligence and language impediments which eventually narrowed the research group length. Lastly, this analysis highlights the necessity of being vigilant about the preferences of consumers and the progress of technology in the continuously developing hospitality industry.

*Keywords: Artificial Intelligence, Digital Marketing, Retention Rates, Hospitality Sector, Greece*

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## **ENHANCING LEARNING THROUGH KNOWLEDGE SHARING BETWEEN FACE-TO-FACE AND ICTS INTERACTIONS**

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### **ABSTRACT**

#### **INTRODUCTION AND THEORETICAL BACKGROUND**

Learning within groups refers to the process that allows individuals to acquire, share and combine knowledge through experience. Scholars identified it as an important driver of innovation and performance (Argote & Ingram, 2000; Cohen & Levinthal, 1990; Dyer & Nobeoka, 2000; Teece et al., 1997). Organizational literature widely analysed how learning takes place during different organisation activities and how individuals share their knowledge (Hansen et al., 2005; Nonaka, 1994; Pisano, 1996). Harvey, Bresman, and Edmondson (2018) developed a framework composed by four categories of learning: reflexive, experimental, contextual, and vicarious learning. Accordingly, it becomes indispensable for individuals to continuously learn particularly when involved in dynamic and complex work contexts requiring teamwork, coordination, and significant experience (Hara et al., 2001; Myers, 2022). In such situations, where exclusive formal learning may be little effective, it becomes important to understand how, on which occasions, and by what means individuals share their knowledge. Therefore, the aim of this paper is to explore learning that occurs while individuals are performing activities both directly in the field and outside it, within complex real-world contexts (Leith, 2019; Seely & Duguid, 1991). This is due to the efficacy of these contexts in highlighting the mechanisms by which individuals share knowledge and learn (Maanen & Kolb, 1982; Myers, 2022; Schulte et al., 2020).

#### **RESEARCH CONTEXT AND METHODOLOGY**

We explore how knowledge sharing occurs in the Abruzzo, Lazio, and Molise National Park (PNALM). Dedicated to preserving wildlife and natural landscape, this context necessitates various strategies to ensure the coexistence between humans and wildlife. The management of the park is entrusted to qualified and unqualified personnel, including volunteers, auxiliaries, and experienced park rangers. They synergically work in pairs in extensive natural territories, forming dyads. Many of the activities they perform are complex, involving numerous operations such as data and wildlife monitoring. These operations necessitate profound knowledge of the environment and animal behaviours, shaping a context where continuous learning is crucial. Learning quickly is indispensable, particularly for the

non-experienced members, to handle complex situations such as encounters between humans and animals, and effectively contribute to the mission. Moreover, it is essential that the information they collect is shared among volunteers, auxiliars, and park rangers across different organisational areas. These areas include technical, surveillance, or scientific domains where information collected from members in the field is constantly gathered and analysed. Specific technologies such as radio collars, apps, or database as well as traditional and digital communication tools regularly facilitate these operations. Therefore, this unique context is characterized by a variety of complex activities and the unpredictability of coexistence between humans and animals. These features, along with the high number of new personnel requiring knowledge to be shared, make the management of the park particularly challenging. Highlighting the crucial role of knowledge sharing, the characteristics of this context enable us to explore diverse forms of learning through different perspectives. Through our investigation, we observe how of face-to-face and digitally based interactions, while engaging in activities, support four different types of learning – contextual, experimental, reflexive, and vicarious learning. We further explore the impact of learning on tacit and explicit knowledge sharing in a context where digital and non-digital coexist. We conducted a documental analysis to lay the groundwork for 16 open-ended interviews with PNALM members. The questionnaire was composed of introducing questions, activities, technology, personal relationships, data sharing, external collaboration, and further questions. Thereafter, we applied the content analysis method to analyse the interviews: after developing a dictionary with the most frequent words, we selected parts of the text and assigned them to nodes and sub-nodes following the literature. By basing our methodological approach on Gioia methodology (Gioia et al., 2013), we adopted co-occurrence analysis to find patterns among nodes. This analysis unveiled the connection between learning, communication tools, activities, and knowledge. We framed our results and discussed the findings in the related section.

## **FINDINGS AND CONTRIBUTIONS**

Our paper contributes to learning and knowledge literature by unfolding learning through diverse activities and communication tools, ultimately showing its impact in shaping knowledge. We firstly demonstrate that contextual and vicarious learning mostly occurs with face-to-face interactions while reflexive learning occurs more through digital tools. Secondly, we demonstrate the fundamental role played by fieldwork-based activities in contextual and vicarious learning. We also show that, with minor impact than practice, office and formal education activities may support learning in our contexts. Further, we demonstrate how the four typologies of learning impact on explicit and tacit knowledge. Accordingly, experimental and reflexive learning are mostly effective in facilitating the sharing of explicit knowledge as is contextual learning as well. Moreover, contextual learning effectively shapes

explicit knowledge while concurrently facilitating the sharing of tacit knowledge occupying an intermediary position. Finally, the most significant findings reveal crucial evidence that vicarious learning is an effective process that largely shapes tacit knowledge.

Organizations could benefit from our findings since they may improve knowledge sharing and learning processes by actively managing interactions and activities of members. We highlighted how specific activities and communication tools facilitate learning processes. We demonstrated that face-to-face and digitally mediated interactions have different impact on knowledge sharing. The same applies to the activities: individuals can perform different activities and learn differently. Organizations can recognize the strategic importance of activities for individual group learning. Finally, by linking learning to the type of knowledge, organizations could indirectly foster the sharing of tacit and explicit knowledge by selectively enhancing specific types of learning.

*Keywords: Learning, knowledge sharing, knowledge, communication tools, groups.*

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## IMPLEMENTING DIGITAL TRANSFORMATION THROUGH OPEN INNOVATION: A CASE STUDY IN ITALIAN PUBLIC ADMINISTRATION

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### ABSTRACT

Research on open innovation (OI) (Chesbrough & Bogers, 2014) has primarily focused on private sector organizations, with limited investigation into the public sector (Venturini & Verbano, 2017), often uniquely centred on the energy and multi-utilities sector (Pellegrini et al., 2012; Chesbrough, 2016; Gionfriddo & Piccaluga, 2023) or on e-Government initiatives (Mergel & Desouza 2013) without push forward the understanding of OI in public sector entities since their evolving role in OI ecosystem (Palumbo et al., 2023).

Innovation within the public sector (IIA, 2011), is frequently viewed as the transference of business practices into governmental environment. However, public sector entities stand apart from their private counterparts due to distinct attributes like funding, control, and legal mandate (Gershman et al., 2018). In addition, state-owned enterprises (SOEs), pursuing a multitude of goals play an important role in achieving science, technology and innovation (STI) policy targets substituting insufficient private investment (Gershman & Thurner, 2016).

Unfortunately, public sector organizations often adopt bureaucratic (closed) methods of innovation that fail to produce the quantity and quality of innovations necessary to address both emerging and ongoing policy challenges (Bommert, 2010). Bureaucratic organizations by nature typically prioritize the application of regulations over the use of practices that foster creativity. The rigidity inherent in the bureaucratic structure of public sector entities, creates the unique mix of management practices inherited from the past with more adaptable approaches cultivated in the private sector (Khanal, 2022).

In order to overcome shortcomings in public finance (Mu & Wang, 2022), public sector entities often embrace a senior partnership role merely creating a favourable environment to foster connections among stakeholders (Palumbo et al., 2023).

Public organisations could also benefit from the experiences of OI in the private sector using the process of collaboration and co-creation between stakeholders (Bekkers & Tummers, 2018) to achieve innovation and augmenting the value creation capacity. These processes see the search for innovation only outside the boundaries of the public organisation underestimating the innovative capacity within themselves.

For all these reasons, scholars have focused on the creation of partnerships between public and external entities using OI practices and have not yet explored the use of these practices within the organisation's boundaries stimulating an inside-in innovation flow (Gutmann et al., 2023).

The aim of this research is to understand how OI practices can be implemented in a highly bureaucratic organisation, such as the Public Sector, and whether these practices were useful in pursuing the intended innovation goal (in this case digital transformation).

This work precisely proposes a case study (Yin, 1994) of OI practices in Sogei - Società Generale d'Informatica S.p.A., an Italian SOE fully owned by the Italian Ministry of Economy and Finance which is responsible for the digital transformation of administrative process of Italian public administration.

Through a qualitative method involving a single case study this paper aims to provide scholars and practitioners with useful insights into the use of OI practices in public administration starting from a case study of Sogei's experience.

Sogei embraced the paradigm of OI in 2019 and published a whitebook about it (Sogei, 2021) to extend the experimentation of an OI model in Public Sector with a specific focus on Public Administration (PA). Sogei's case was a driver of innovative change within the public administration by generating value through the production of material, such as the whitebook, and by opening a debate on the use of IO in a highly bureaucratic environment through the management of inside-in innovation flows. Delving into this case study makes it easy to analyse what the results of OI actions have been and how they have been measured, providing an insight into possible future uses in highly bureaucratic organisations such as the public administration.

*Keywords: Open Innovation; Public Management; State Owned Enterprise; Public Administration; Digital Transformation; Public Value; Innovation Management; Collaboration; Italy;*

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## INNOVATION THROUGH EXPERIMENTATION: THE DUAL IMPACT OF LEAN STARTUP AND GROWTH HACKING METHODOLOGIES

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### ABSTRACT

In the process of validating a value proposition or a business model, it is commonly acknowledged that the initial business idea rarely makes it to market in its original form. In the early stages of a startup, an idea is formulated, a Minimum Viable Product (MVP) is developed, and tested through the Lean Startup methodology (Reis, 2011). Following this phase, if the startup progresses, the MVP is either enhanced or completely changed (pivoted). Upon successfully validating the business model, the startup proceeds to market entry. At this step, many startups employ the Growth Hacking approach, or similar approaches, to foster growth and try to scale their business (Holiday, 2014; Cavallo et al., 2023). Growth hacking has been viewed as a marketing technique leveraging creativity, analytical thinking, and social metrics to sell products and gain exposure (Ellis & Brown, 2017). It can be seen as part of the online marketing ecosystem, as in many cases growth hackers use techniques such as search engine optimization, website analytics, content marketing and A/B testing. Growth hacking has been, since then, leveraged by several born-digital companies (e.g., Dropbox, Google, Airbnb, Meta, LinkedIn, Pinterest, PayPal and many others) to improve business scalability and to boost growth. Strategies like referral programs, free trials, loyalty mechanisms have been proved effective in driving growth. Recent studies have pointed out that Growth Hacking can be used by any type of enterprise to scale a business, scale, optimize processes, develop new products and services, and improve some business activities (Bargoni et al., 2024a).

Despite the widespread application of these methodologies, theoretical understanding of the use of Growth Hacking, including its organizational, managerial, and strategic dynamics, remains limited. Only recently has scholarly literature begun to investigate this approach (e.g. Bohnsack & Liesner, 2019; Troisi et al., 2020). Furthermore, there is even less understanding of how the two methodologies, Lean Startup and Growth Hacking, can be synergistically used to maximize growth. Often, these methodologies are confused. However, it can be argued that they are both experiment-driven approaches, fuelled by data-analytics, aimed at developing a product, service, or business model (Lean Startup) or facilitating growth (Growth Hacking). Recently, scholars have suggested viewing Growth as a methodology for conducting experiments not only on products and services but also on

channels, campaigns, and other business activities (Bargoni et al., 2024a). Moreover, this approach is beneficial not solely in the context of platforms but also within traditional enterprise environments (Bargoni et al., 2024c).

In this context, the present paper aims to elucidate, unveil and discuss the interconnection between the Lean Startup and Growth Hacking methodologies, both in terms of theoretical understanding and practical application.

To gain a deeper understanding on how Lean Startup and Growth Hacking principles can be used together to simulate the innovation-growth-innovation loop, we adopted a qualitative approach, combining Gioia's methodology (Gioia et al., 2013) and phenomenography. As defined by academics (Denicolai & Previtali, 2023) phenomenography is an interpretive process to reveal the heterogeneity of managerial mindsets and practices. Furthermore, to gather all the relevant and recurrent concepts from the interviews in an inductive way, the Gioia method is applied. Information is primarily gathered through semi-structured interviews, integrated with data from both publicly available sources and materials provided by respondents.

Given the aim of this study, we focus on companies that implement growth hacking strategies to fuel innovation. Growth hacking, being a process or even as defined by some interviewees a mindset, is not industry specific but rather can be applied to any sector or company.

We purposively selected four companies that formally and informally collaborate with the university where the authors work. This led to constant discussions between the researcher and various managers and employees of the companies under analysis. The involved companies are startup or scaleup adopting a platform business model (Cusumano et al., 2019; Madanaguli, 2023).

The results of the case studies suggest that the Lean Startup approach has been extremely useful for building an MVP and improving it for market launch. On the other hand, Growth Hacking contributes to collecting all types of data useful for analysing the target, their needs, challenges, and the perception of the value proposition. Therefore, from the perspective of value configuration, the company must transform into a data-driven decision-maker to support all business areas and the growth team. Data will then be the engine of key business decisions. Hence, data analysis allows for better market segmentation and the identification of new needs, to be addressed with a new product or services, which can support the initial value proposition or even become more important than it in terms of revenue and total addressable market. Firm1, for example, offered a business model with limited production capacity at its early stage. Thanks to the analysis of structured and unstructured, quantitative, and qualitative data (such as interviews, reviews, etc.), they understood there was a new market potential with new needs. Therefore, a new service was launched, tested with a lean startup

model, and then scaled. Today, this service brings in more revenue than the previous one. The same applies to Firm3, whereas two more services have been developed thanks to data analysed during the Lean and Growth phases. Firm2, on the other hand, developed a new service to support the core service, thanks to the Growth methodology. Firm4 drafted the new service, which is based on a subscription revenue model which brings various advantages in terms of recurrent revenues and forecast capabilities, during the scaling phase. In summary, the four startups experimented to: a) develop new business ideas by segmenting users and/or gathering and analysing data during the scaling phase; b) draft a new VP implementing the Lean Startup principles; c) grow and scale the new service using Growth Hacking strategies.

In conclusion, the paper offers the following insights. First, the paper emphasizes the importance of continuous identification of new growth opportunities — through data analysis, interviews, surveys, business model analysis, micro-segmentation, etc. Rarely will the first business idea turn into a successful product. Ventures must be able to analyse the market and continuously search for the famous product-market fit, and launch new products and services. Second, the business model innovation should be driven by the scientific and experimental approach, collecting data and continue modifying with a loop process. Third, Growth Hacking is not only for scaling. While growing, it is always necessary to adapt change certain aspects of the business model. Ultimately, the key objective of the scaling phase is to acquire a better understanding of users and various market segments.

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*Keywords: Growth Hacking, Lean Startup, Experimentation process, Platform, Business model.*

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# EXPLORING THE EFFECTIVENESS OF HUMAN AND VIRTUAL INFLUENCER MARKETING IN THE TOURISM INDUSTRY: HOW DIFFERENT INFLUENCER TYPES SHAPE TRAVEL CHOICES

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## ABSTRACT

### BACKGROUND

The digital age has revolutionized information exchange, rendering the quest for knowledge more accessible than ever before. This transformation, driven by the advent of diverse platforms, has refined user engagement through the prolific sharing of visual content, prompting shifts in influence, behaviour, and attitudes – crucial factors within the dynamics of social networks (Baptista and Costa, 2021). Businesses, from emerging start-ups to established multinationals, have tapped into this digital proliferation, creating a pervasive online presence. The ascendance of digital influencers, those who wield power over public perception through online platforms, illustrates a pivotal marketing tactic. This realm has expanded to encompass virtual influencers: digitally rendered entities that, while lacking corporeality, engage audiences through the mirage of human likeness. Their rising significance in influencer marketing signals a shift in promotional paradigms. Within the tourism sector, characterized by its sensitivity to consumer whims and market volatilities, the role of influencers is magnified. Travelers increasingly rely on the persuasive power of influencers, individuals who disseminate their experiences and opinions through content that can pivotally guide others' choices (Pereira et al., 2023). Nevertheless, a gap exists in the scholarship on influencer impact within global tourism, as current literature often exhibits geographical constraints. Recognizing this, there is a call for comprehensive research to understand the scope of influencer marketing's efficacy on a worldwide scale, particularly as it pertains to travel-related decision-making. This study aims to bridge this gap, offering a nuanced examination of influencer dynamics within the global tourism landscape.

## **PURPOSE**

This study seeks to fill a gap in academic inquiry by scrutinizing the role of Digital Influencers (DIs), encompassing both human influencers and their computer-generated counterparts, within the realms of social media and their subsequent influence on the decision-making processes of consumers. The research particularly focuses on the hospitality and tourism sectors, where the influence of digital communication on strategic business approaches is becoming ever more critical. The research endeavours to establish whether the marketing initiatives of such companies are congruent with consumer expectations and organizational goals. Literature to date suggests an insufficiency of focused research in this area, prompting a deeper evaluation of the communication strategies employed by these companies and their impact on user choices. Given the increasing reliance of the hospitality and tourism sectors on digital channels for global communication, this research aspires to elucidate the extent to which social and virtual influencers shape consumer decision-making. It will determine if influencer marketing strategies align with user expectations and desires, identifying potential communicative improvements or gaps. Central to this inquiry is whether varying influencer types notably affect traveller choices, drawing on findings from Pop et al. (2022). Collectively, these studies reveal intricate dynamics between influencer credibility, consumer trust, and the power of perceived homophily, underscoring the intricate interplay between influencer attributes and consumer purchasing decisions.

## **METHODOLOGY**

This research adopts an empirical approach, supported by inductive statistical methods, to discern the impact of digital influencers on consumer decision-making. A structured questionnaire was administered to a range of social media users to collect quantitative data. The questionnaire was meticulously designed to probe the influence of both human and virtual influencers on travel-related choices, assessing the extent to which these influencers shape consumer behaviour in the hospitality and tourism sectors. Specific focus was placed on the influencers' perceived credibility and the likelihood of their recommendations being followed. The sample comprises individuals who frequently use social media, ensuring familiarity with influencer marketing paradigms. The resultant data will reveal potential disparities in the impact of content creators, thereby informing strategies for effective influencer engagement within the industry.

## FINDINGS AND DISCUSSION

This study will elucidate the differential impact of human and virtual influencers within the tourism industry. Human influencers were shown to enhance both the image of travel destinations and brand perceptions more significantly, underscoring the potency of authentic personal narratives in influencing traveller choices. While both types of influencers positively swayed purchasing decisions, content from human influencers had a deeper resonance, likely due to their greater relatability and perceived credibility. Audience demographics also played a role in moderating the effectiveness of influencer marketing, indicating a need for tailored strategies. Despite virtual influencers' effectiveness, human influencers command a broader impact across the decision-making spectrum, attributable to their personal engagement with the audience. These findings highlight the strategic importance of influencer partnerships in digital marketing, advocating for nuanced marketing approaches that leverage the distinct advantages of both influencer types to meet consumer expectations and enhance engagement within the tourism sector.

## CONCLUSION AND IMPLICATIONS

The research underscores human influencers' paramount role in enhancing destination and brand perception within the tourism sector, validating the enduring influence of authentic human experiences. Despite their synthetic nature, virtual influencers also positively impact purchase intentions, indicating an evolving paradigm of digital influence. For industry marketers, this indicates an opportunity to harness the genuine appeal of human influencers while exploiting the adapted content curation offered by virtual entities. A strategic balance between these influencer types could yield optimal engagement, blending authenticity with targeted messaging. Demographic variables emerge as a key factor in tailoring influencer campaigns to consumer profiles. The study advocates for continuous exploration into the nuanced effects of virtual influencers, anticipating their growing sophistication. It calls for adaptive marketing strategies that evolve with technological advancements, ensuring meaningful consumer connections and sustained engagement in the rapidly changing digital marketing landscape.

*Keywords: Influencer marketing; Human influencers; Virtual influencers; Consumer behaviour; Digital tourism; Hospitality; Decision-making process; Destination image; Social media; Purchase intention*



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## BEYOND SURVIVAL: A SCALE TO MEASURE THE DRIVERS OF ORGANISATIONAL THRIVING

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### ABSTRACT

In today's dynamic business landscape, organisations not only face challenges that test their endurance and growth but are also expected to thrive in adverse circumstances (Sindila et al., 2023). Recognising a gap in the academic literature - the absence of a comprehensive scale to measure organisational thriving - this study develops and validates a new Organisational Thriving Scale designed to assess an organisation's capacity to succeed under these demanding circumstances.

### ORGANISATIONAL THRIVING

Although academically (Tobias, 2004) and popularly (Kotter et al., 2021) discussed, the concept of organisational thriving lacks a universal definition in literature. Frequently it has been associated with the concept of organisational resilience as a fundamental construct essential for navigating the ever-changing corporate landscape (Vera et al., 2021). Organisational resilience has evolved to indicate an organisation's capacity to adapt, recover, and flourish amidst challenges (Duchek, 2020) highlighting the flexibility and the innovative approach to challenges (Holling, 1973; Richtnér & Löfsten, 2014; Zighan, 2023), maintaining operational stability while embracing strategies for continuous improvement disruptions (Bravo & Hernández, 2021), emphasising recovery from disruptions and proactive resources and capability development for organisational advancement (Chen et al., 2021a).

However, not only does the cognitive aspect of resilience serve as a pillar for the concept of thriving, but also the factor of organisational cohesion, highlighting the importance of high-quality connections, mutual support (Casey-Campbell & Martens, 2009) contributing to organisational vitality, energising the workforce and fostering a sense of belonging and engagement among employees (Müceldili & Erdil, 2015; Torres et al., 2019)

In this research, the synthesis of organisational resilience and cohesion offers a framework for understanding organisational thriving. Resilience provides the foundation for adapting to external challenges and leveraging them for growth (Chen et al., 2021b; Duchek, 2020; Vogus & Sutcliffe, 2007). In contrast, cohesion enhances the internal support systems and has a positive effect, which is crucial for a vibrant and productive organisational culture (Müceldili & Erdil, 2015; Peterson et al., 2009). This combination captures the essence of a thriving organisation: an environment conducive to growth and overcoming adversity through resilience while positively collaborating and supporting each other.

## METHODOLOGY

This study employed a two-phase methodology to develop and validate a scale measuring Organizational Thriving, focusing on the constructs of organizational resilience and cohesion. Initially, a pilot study involved a sample of 36 respondents from one organization, testing a 17-item Likert scale (ranging from 1 to 5). This pilot was followed by a larger survey involving 408 respondents from 20 different Lithuanian organizations.

The scale included items such as “Our organization's members can work together in the common interest of the organization, even in difficult external or internal situations,” “Our organization can remain positive even in times of crisis,” and “Challenges make our organization even stronger.” The validity and reliability of the scale were verified through Exploratory Factor Analysis (EFA), with results indicating a high degree of internal consistency (Cronbach's  $\alpha = 0.947$ ) and reliability (Spearman-Brown coefficient of 0.958). EFA was used to identify the factor structure underlying Organisational Thriving aspects, enhancing the scale's applicability, robustness and generalisability.

## RESULTS

The Kaiser-Meyer-Olkin (KMO) measure of 0.955 and Bartlett's test established the data's suitability for exploratory factor analysis (EFA), confirming its appropriateness for this statistical method. *EFA results.* Initially, a pilot smaller sample of 36 respondents from one organization revealed four significant factors, accounting for 75.195% of the total variance: (1) supportive work Environment, (2) Dynamic and responsive organizational capacity, (3) Values and vision, and (4) Creativity and resourcefulness. Meanwhile, the larger sample's EFA2 results across multiple organizations refined these into two generalized dimensions explaining 55.932% of the variance: (1) Organizational resilience and innovation and (2) Positive organizational cohesion and mutual support. **Comparative Analysis:** The evolution from four factors in EFA1 to two in EFA2 demonstrates the scale's broader applicability and robustness, capturing essential aspects of organizational thriving like adaptability, innovation, and supportive work environments across diverse organizational settings.

## CONCLUSIONS

This research's novel input in the Positive Organisational Scholarship field was developing and validating an Organizational Thriving Scale that captures the aspects of organisational resilience and cohesion that are important not only to survive in challenging environments but also to thrive. Through Exploratory Factor Analysis of two diverse samples, it offers a conceptual framework for assessing and subsequently enhancing aspects of resilience, enabling organizations to adapt and grow

amidst challenges and cohesion, enhancing internal support and cultivating a positive organisational culture. For managers and leaders, this theoretically and empirically developed scale could serve as a valuable tool for assessing and ultimately informing developmental programmes and practices that could enhance their organisational thriving. Future research, including Confirmatory Factor Analysis, could further validate and refine the scale's applicability across diverse organisational and cultural settings.

**Keywords:** *Organisational thriving, organisational resilience, social cohesion*

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# **USER, VISITOR, CUSTOMER OR STAKEHOLDER EXPERIENCE? A SYSTEMATIC LITERATURE REVIEW ON THE EXPERIENCE IN THE MUSEUM CONTEXT**

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## **ABSTRACT**

### **THEORETICAL BACKGROUND**

In line with the experience economy (Pine and Gilmore, 1998; Ponsignon and Derbaix, 2020), the fourth stage in the progression of the economic value is about delivering memorable experiences. It is especially relevant while considering the environment's competitiveness and the customers' growing expectations. The idea of the experience economy is still relevant and has many forms (user experience, customer experience, employee experience, etc.). It is caused, e.g., by the high pace of technological development and societal changes. Hence, mapping customer journeys is becoming more challenging due to the complexity of communication channels and the blurred boundaries between physical and digital experiences (Rosenbaum *et al.*, 2017).

Experience and experience economy can also be identified in the context of museums (e.g. Radder and Han, 2015; Gorgadze *et al.*, 2021). In light of the scarcity of financial resources and the necessity to compete for the time and attention of the audience (e.g. Black, 2020), museums have to apply a more business- and management-oriented perspective, maintain relations with the environment, and communicate their value. Moreover, creating positive experiences should gradually become more critical if they aim to be competitive entities. Discussions about changes in museums are focused primarily on the visitors. Although they are relevant, a multi-stakeholder approach should be considered due to the diversity of museum activities and the complexity of addressed expectations. Moreover, experience does not happen only in museum exhibition space. It is addressed by the fact that discussion is not only about „virtual“ or „on-site“ experiences: those areas are blurring, creating a phygital experience (e.g. Debono, 2021). Therefore, identifying and analyzing touchpoints can be a challenging task.

## RESEARCH METHODS

Therefore, this initial study aimed to explore and systematize scientific debates regarding experience creation in the museum context. Three research questions were formulated as well:

RQ1. How is experience understood in the context of museums?

RQ2. What stakeholder and their roles are analyzed in the context of museum experience creation?

RQ3. What insights and frameworks does existing literature provide regarding the integration of digital and physical interactions in museums to enhance visitor experiences across various touchpoints?

A systematic literature review was applied to realize the research purpose and address the research questions. The study was conducted using data from Scopus and Web of Science databases collected in January and February 2024. Specific search criteria were employed to obtain a research sample, as i.e. creating keyword combinations that guided the analysis and including only English publications in the in-depth analysis. Moreover, no specific timelines were applied during the search process. The PRISMA approach will be used to report the results.

## FINDINGS AND CONCLUSIONS

The findings revealed that experience in the museum context is often defined with a reference to Pine and Gilmore (1998). One of the main aspects regards varied emotions (Jiang et al., 2023), yet they are mainly focused on the tourist's or visitors' emotions. Visitors' satisfaction is important, especially while considering the environment's competitiveness, yet museums' management is more diverse. Hence, experience is mainly analyzed within the tourism context and with direct reference to the museum exhibition area. Although some works refer to the customer or customer journey issue (Passebois Ducros and Euzéby, 2021), there are almost no mentions of the other stakeholders. When looking at the integration of physical and digital interactions, virtual and augmented reality is one of the main aspects in this area. Social media and the general importance of digital technologies are explored in the widespread discussion about transformation in museums. Future exploration should be focused more intensively on the aspects of mapping the „museum journey“ and the role of different stakeholders. Phygital experiences can also be meaningful from the managerial perspective,

as visitors or other stakeholders can access the museum through many touchpoints. Moreover, future studies should have both empirical and theoretical character.

*Keywords: customer, digital, experience, experience economy, management, museum, stakeholders, visitors.*

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# SPORTS TOURISM IN LUXEMBOURG: PASSION, PERSEVERANCE, AND ARTIFICIAL INTELLIGENCE (AI) – WHAT IS THE TRANSFORMATIONAL INFLUENCE OF AI ON SPORTS TOURISM IN LUXEMBOURG?

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## ABSTRACT

This qualitative research examines the impact of artificial intelligence (AI) on sports tourism in Luxembourg, navigating the dynamic interplay between Passion and Perseverance. The study delves into the intricate relationship between cutting-edge AI technologies and the vibrant world of sports tourism with its passion and perseverance. Set against the backdrop of Luxembourg's rich cultural heritage and picturesque landscapes, this investigation analyses how AI innovations are reshaping the sports tourism landscape, harmonizing the passion of sports enthusiasts with the tenacity required to enhance and sustain this vital industry.

**Research Method and Research Question(s):** The methodology employed in this study involves, first, an in-depth review of the extent literature, including the examination of current web pages, primarily from sources such as <https://www.visitluxembourg.com/fr/> and Luxembourg for Tourism. Second, semi-structured interviews were conducted from November 2023 until May 2024, where a total of 25 respondents were asked mainly: “What is the transformational influence of Artificial Intelligence on Sports Tourism in Luxembourg?” Subsidiary research questions include: What are the prevalent sports activities in Luxembourg? Who are the key figures in the sports community? What is the overall impact, and what are the potential risks associated with the integration of Artificial Intelligence in sports tourism? This research also explores the themes of passion and perseverance in the context of sports.

**Data Analysis:** Respondents were from 4 different categories such as Luxembourg Nationals (15), Luxembourg Foreigners (5), Cross-Borderers (3), and the rest of the World (2). Interviews were conducted in Luxembourgish, English, French, German, and Italian, employing various mediums such as in-person, phone calls, Skype, WhatsApp, or email exchanges. The duration of the interviews ranged from 15 minutes to 1 hour. Due to confidentiality reasons, interviews were not recorded or filmed, but comprehensive notes were taken. Following the interviews, respondents were provided with a summary, and their consent for inclusion was sought. Interviews conducted in Luxembourgish, French, German, Italian, or Spanish were translated into English.

The structure of this research entails a comprehensive literature review on the Grand-Duchy of Luxembourg, followed by an examination of the sports industry and sports tourism within the



Luxembourg context. Beyond contributing to academic discussion, this research provides practical insights for stakeholders in Luxembourg's sports tourism sector. By navigating the evolving relationship between technology, passion, and perseverance, the study offers a nuanced understanding of how AI is shaping the future of sports tourism in Luxembourg and, consequently, the global sports industry.

Luxembourg boasts a rich sports culture complemented by outstanding sports infrastructures. The diverse natural landscape facilitates activities such as hiking and biking across forests, fields, and well-maintained streets. The country offers an extensive range of in- and outdoor sports opportunities for both locals and tourists, supported by resources provided by the Luxembourg Tourist Office and various municipalities.

**The author posits the following hypothesis:** *Artificial Intelligence is expected to reshape Sports Tourism in Luxembourg, and the extent of this transformation will be contingent upon the cultural setting, as delineated by Geert Hofstede.*

**Findings:** As potential *positive impacts* were named Personalised Recommendations, Enhanced Travel Planning, Real-time Updates, Language Translation, Predictive Analytics, Customer Service Chatbots, Safety and Security, Data Insights, Sustainability, Augmented Reality (AR) and Virtual Reality (VR).

As *potential Risks and Downsides* of Artificial Intelligence in Sports Tourism in Luxembourg were named: Privacy Concerns, Data Security, Bias and Fairness, Loss of Human Interaction, Technical Failures, Cost and Accessibility, Job Displacement, Over-tourism, Cultural and Environmental Impact, Loss of Authenticity.

Out of the 25 respondents, 15 confirmed the hypothesis, while 10 remained sceptical, asserting that nothing would change. In conclusion, the author's hypothesis was both confirmed and questioned. Overall, integrating AI into sports tourism in Luxembourg has the potential to enhance the destination's attractiveness, efficiency, and appeal to sports enthusiasts, resulting in increased visitor numbers and economic benefits for the region. However, it's crucial to consider privacy, data security, and ethical concerns when implementing AI technologies in the tourism sector.

The research identified potential risks and downsides of AI in sports tourism in Luxembourg. To mitigate these risks, responsible and ethical implementation is essential. This involves ensuring robust data protection measures, addressing algorithmic bias, providing transparency to tourists about data usage, and maintaining a balance between AI-driven services and human interaction. Regular monitoring, evaluation, and adaptation of AI systems are necessary to address emerging issues. Public-private partnerships and collaboration with experts in AI ethics can provide valuable insights in navigating these challenges.

Additionally, the weather was identified as a crucial factor in Luxembourg's sports tourism.

**Limitations:** Certainly, the scarcity of available data highlights an opportunity for improvement in data collection and statistics regarding sports activities in Luxembourg. As a sole researcher, the author acknowledges the challenge of competing with large research groups. Further statistical analyses, such as Mediation and ANOVA, could enhance the research. Enhancing the comprehensiveness and accuracy of such data can provide valuable insights for various stakeholders, including athletes, sports organizations, policymakers, and researchers. This improvement could contribute to a more informed understanding of the sports landscape in Luxembourg and support the development of strategies to further promote and enhance sports participation in the country.

Despite these limitations, the research holds potential value for tourists visiting Luxembourg, particularly sports enthusiasts, as well as individuals working or contemplating employment in Luxembourg. This includes expatriates and their families, expat managers, HR professionals, and managers in Luxembourg. Despite the attractive aspects of high salaries, fringe benefits, and a good healthcare system, the cultural and linguistic peculiarities, such as high Long-Term Orientation (LTO), high Uncertainty Avoidance (UA), and high Collectivism (low Individualism), combined with three official languages—Luxembourgish, German, and French, in this order—taught as instructional languages in schools, along with many other languages, present challenges that may impact the perceived attractiveness of life in Luxembourg. Additionally, the weather poses an additional concern for individuals from warmer regions.

**Future research could delve into the following areas:** Quality in sports tourism, Artificial Intelligence and Responsible Leadership in Sports Tourism in Luxembourg, and Linguistic/Cultural Issues, Expatriates and Global Mobility.

*Keywords: Sports Industry, Luxembourg, Passion, Perseverance, Artificial Intelligence (AI)*

## PROMOTING SALARY EQUITY: MENTORS AND LEGAL REFORM

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### ABSTRACT

May, 2023 marked the 60<sup>th</sup> anniversary of the Equal Pay Act (EPA) (Equal Pay Act, 1963) in the United States. Prior to its passage, it was considered appropriate for men to earn more than women for the same job because it was assumed that men had families to support and women did not. But because the law was enacted with a huge loophole, the wage gap stubbornly remains. Today, a woman working full time still earns on average 84 cents for every dollar earned by a man, and the gap is even larger for minorities (U.S. Department of Labor, 2023). Blacks, Hispanics, and Native Americans earn 73 to 77 cents for every dollar earned by white workers. The gap not only affects the amount earned but it also usually affects benefits such as retirement income.

The objective of this paper is to examine attempts at addressing this problem and offer suggestions for narrowing the gap. Our methodology includes examining and critiquing U.S. federal and state laws seeking to narrow the gap as well as analyzing the feasibility of mentoring as a possible means to help address the issue.

Several U.S. states, acknowledging the lack of a federal solution, have passed laws designed to help close the gap. We examine some of those laws, particularly the latest which mandate posting salary ranges for jobs posted by companies. The gap will not be solved by a single approach, but we propose that mentors can be an important part of the solution.

The statutes, while requiring the posting of salary ranges, differ in other important aspects. For example, Washington's law only applies to employers with fifteen or more employees (Washington Pay Transparency Law, 2022), as does California's (California Pay Transparency Law, 2023). New York City's law, however, applies to employers with four or more employees (New York City Pay Transparency Law, 2022). There are also differences in what must be disclosed in addition to salary ranges.

Mentors can play an important role in reducing the gap. They can inform the mentee of unlisted openings and inform mentees of a realistic salary expectation. They can also have an open discussion about salaries. Research shows that women are not as skillful as men in negotiations, are more reluctant to negotiate about pay, have less information about pay, and usually ask for less when they negotiate.

Mentoring has long been acknowledged to be important in facilitating a woman's path to the upper levels of management (Bisoux, 2022; Hunt and Michael, 1983). Scholars cite the many ways a mentor can help including sharing their experience and knowledge of the organization, protecting her from discrimination, giving her reflected power, and suggesting her for open positions (Dworkin & Schipani, 2020; Sosik and Godshalt, 2000). There is one aspect of working, however, that has seldom been mentioned: salaries.

Mentors can play an active role in reducing the wage gap. They can raise the topic of salaries and make clear that this is an appropriate topic of discussion. A mentor can also suggest their mentee for a position even if that job has not been advertised. This would help overcome the problem of some employers not listing jobs. Even in states without mandated ranges, mentors can discuss salaries, where salary information can be found and how to best negotiate. Mentors can ease discussions about salaries to help reduce the gap.

In addition, businesses can assist by supporting and promoting mentorship programs and making salary information accessible. There is no reason to wait for further legal reform. Business can address the issues.

*Keywords: gender diversity, salary equity, mentors, legal reform, management, leadership*

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## WHEN THE LEADER LISTENS: THE EFFECT OF HEAD NURSE'S LISTENING ON NURSES' RECOVERY AND TURNOVER

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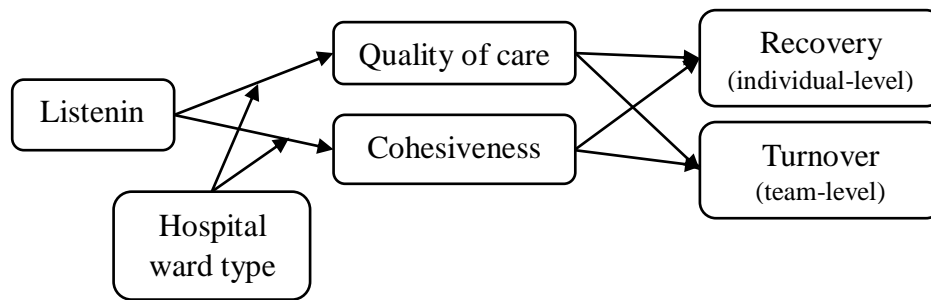
### ABSTRACT

### INTRODUCTION

Nursing leadership plays a crucial role in shaping outcomes for healthcare organizations, personnel, and patients. Various studies indicate that relationship-focused nursing leadership behaviors contribute to positive outcomes including nurses' job satisfaction, well-being, and intention to stay in their work (Cummings et al., 2021). Listening is a powerful relational-focused leadership behavior (Kluger & Itzchakov, 2022).

Listening encompasses behaviors that demonstrate presence, attention, understanding, and good intentions toward the speaker (Itzchakov & Kluger, 2017; Itzchakov, Kluger & Castro, 2017; Lloyd et al., 2015). It includes asking questions, showing empathy, maintaining silence, and using verbal and non-verbal communication (Huang et al., 2017; Rogers & Roethlisberger, 1991; Shipley, 2010). Focusing on leaders' listening skills, it was found that employees who perceive their leaders as poor listeners develop negative attitudes, potentially leading them to seek a more supportive work environment and increase turnover intentions. However, research on leaders' listening skills is limited (Kluger & Itzchakov, 2022), and there is even less research on this topic within healthcare organizations.

The present study examines whether the listening of head nurses, as key leaders in hospitals, improves the ability of their follower nurses to recover from work and reduces nurses' turnover. Additionally, the study explores two mediational mechanisms: cohesiveness, which focuses on relationships within the nurses' group, and quality of care, which focuses on relationships with patients (See Figure 1).



**Figure 1:** The Research Model

## METHODS

The study took place in a large hospital in Israel. Data were collected from 47 Ward's head nurses and their 314 nurses (3 to 12 nurses per ward). Data included nurses' reports on the listening behavior of their head nurse, nurses' cohesion in the ward, quality of patient care in the ward, as well as their personal recovery levels. Head nurses provided personal characteristics. Finally, nurses' departure data over the three months following the study's conclusion were extracted from each ward. We employed a multilevel analysis using Mplus 8.4. We first conducted a series of CFAs to examine the measurement model and then estimated the path model using SEM.

## RESULTS

Since we had two outcome measures, one at the individual level (nurses' recovery) and the other at the group level (turnover), we conducted two regression models. The results show that the head nurse's listening predicted increased nurse's recovery, through the two mediated variables – ward's quality of care and cohesiveness. Additionally, the head nurse's listening predicted reduced nurse turnover, through the mediation of the ward's quality of care. Finally, the type of ward, internal versus surgical wards, moderated the mediation model such that the mediation was stronger in the surgical wards. The results confirmed our research model.

## DISCUSSION

Our findings suggest that when the head nurse listens to her nurses their well-being increases respectively, and in addition they do not quit the job. This finding is important because it shows for the first time in a multi-level field study, that listening to employees is a leadership quality that has a significant impact both on the subjective perception of the employees about their ability to recover from work, but also on their actual turnover. In addition, our findings reveal two underlying mechanisms: the quality of patient care and the level of in-group cohesiveness. These two mechanisms

indicate that listening indirectly affects nurses' outcomes by operating in two distinct directions: internally within the nursing team and externally towards the department's "customers," namely the patients. Specifically, listening enhances both the internal cohesion of the nursing team and their performance in treating patients. This finding is significant as it illustrates two distinct consequences of listening. It is conceivable that the listening behavior of the head nurse influences these two consequences through role modeling. Nurses who observe the attentiveness and listening skills of the head nurse toward them may emulate this behavior, both in their interactions with each other and with patients. Finally, the moderation effect of ward type suggests that the importance of listening might be more significant in surgical (vs. internal) wards where stress is high and listening to nurses is challenging.

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## THE FUTURE OF PROJECT MANAGEMENT: ADOPTING DIGITAL HUMAN ASSISTANTS FOR AGILE METHODOLOGIES

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### ABSTRACT

**Purpose** – In an era marked by relentless digital transformation, organizations face formidable challenges that call for agile and dynamic adaptation (Omol, 2023). Agile Project Management methodology emerges as a strategic response to these demands, advocating the concept of “Business Agility” – a paradigm where adaptability, flexibility, and readiness for change are the foundational keywords for corporate success (Mathiassen and Pries-Heje, 2006). The Agile approach offers considerable advantages, including the optimization of production processes, increased customer involvement, and faster product delivery (Bergmann and Karwowski, 2019; Marnada et al., 2022), and relies on two main frameworks: Scrum and Kanban (Raharjo and Purwandari, 2020). Ken Schwaber, one of the fathers of Scrum, describes it as a process framework that is neither a process nor a technique for building products; rather, it is a framework within which various processes and techniques can be employed (1997). Kanban, on the other hand, developed within the Toyota production system, focuses on rapid response and the harmonization of inventory levels with actual consumption (Damij and Damij, 2021). Artificial intelligence (AI) plays a multifaceted and expanding role in project management, handling large datasets, providing in-depth analysis, and supporting complex decision-making processes, thereby enhancing the efficacy of project management in sectors with high complexity and rapid technological shifts (Nenni et al., 2024). The cutting-edge AI technology developed by QuestIT – the “Digital Human” Algho (QuestIT, 2023) – opens up new avenues for interaction between the Scrum Master and the team, facilitating optimized communication and refined process management within Agile Project Management. The study aims to understand how the implementation of AI-based Digital Human in project management can augment the Agile methodologies, enhancing the capability of project teams to navigate complex and dynamic environments.

**Methodology** – The study employs a design science approach (Markus et al., 2002; Hevner et al., 2004; Van Aken, 2005) to produce practical knowledge by analyzing the case study (Eisenhardt, 1989; Yin, 2009) of Algho, a digital human created by QuestIT and trademarked by The Digital Box. Through the platform provided by QuestIT, a digital human was developed and trained who could be integrated



into project management as an efficiency booster, especially in the context of Scrum. Establishing a solid knowledge base allows the digital human to deliver precise responses, while the conversational form simplifies user information acquisition, making interaction with technology more natural and less alienating.

**Findings** – The design of interaction scenarios focuses on the added value that the digital human can bring to the Scrum context, supporting the Scrum Master without replacing them. This collaboration between humans and AI underscores the importance of the human touch in decision-making and team relationship management. Embracing Agile methodology and AI technological innovation means investing in a future where adaptability and resilience become fundamental pillars for corporate success.

**Implications** – The digital human, conceived not as a substitute but as a complement to the Scrum Master, symbolizes the vanguard of this new horizon, where the interaction between human and artificial becomes synonymous with progress and competitive advantage (Schleiger et al., 2024). Corporate agility stands as an indispensable paradigm for those aiming to thrive in a fluid and unpredictable economic context. Embracing Agile methodology and AI innovation is not merely a strategic choice but becomes an essential requirement for building resilient organizations capable of interpreting new trends and shaping the future of project management.

*Keywords: artificial intelligence, project management, agile methodology, digital human, digital transformation*

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## CRISIS PREVENTION AND MANAGEMENT IN PUBLICLY-OWNED COMPANIES

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### ABSTRACT

Publicly held companies are corporations under common law in which the state or another public entity holds a stake that may be total (in-house companies), majority or minority (mixed company).

Public companies have specific characteristics and unique economic processes and are subject to defined purposes beyond their operations. According to the reference doctrine, public companies are the economic order of institutions in which the economic entity is public (Zangrandi, 2008).

Publicly owned companies are regulated by the Consolidated Law on Public Companies - TUSP (Legislative Decree No. 175/2016), by which the legislature systematically and cohesively reorganizes the hitherto fragmented and inconsistent topic of publicly owned companies.

The TUSP established that publicly owned companies, as defined by Article 2, paragraph 1(n), are subject, like any other private law company, to the provisions of civil law (Article 1, paragraph 3 of the TUSP) and the standard provisions on the corporate crisis (Article 14, paragraph 1, TUSP).

In line with the TUSP, the Crisis Code (Legislative Decree No. 14/2019), which regulates situations of corporate crisis or insolvency, also finds application to all publicly owned companies in order to converge publicly controlled companies toward the assessment of "corporate crisis risk" (De Matteis, 2000).

The Crisis Code defines "crisis" as "the state of the debtor that makes insolvency likely and is manifested by the inadequacy of the cash flows expected to meet obligations in the next twelve months."

Corporate crisis can be defined as the condition in which the company loses the ability to generate profit (Guglielmucci, 2008) or as a state that necessarily entails changes (Sciarelli, 1995) that can be negative if they create difficulties (Proietti & Quattrocchi, 2009). But in any case, the failure to achieve medium/long-term objectives leads to define the company in crisis (Podestà, 1984). It is essential to investigate the causes of the crisis and their manifestation to manage crisis risk.

Risk and crisis are distinct but interconnected events with cause-and-effect relationships (Cavallini, 2023).

The objective of the paper is to investigate what are the crisis risk assessment tools, whether these tools can anticipate the state of default, and what are the responsibilities and effects for the public

partner in case of the emergence of the elements that anticipate the state of crisis or in case of an overt corporate crisis.

The function of crisis prevention lies with the governing body. It is significant because crises typically develop slowly, eroding the company's value over time. A crisis is reached when the company's inability to generate income becomes irreversible, which becomes evident to the external environment. For publicly controlled companies, whose activities focus on providing general services and the general economic interest, involving a significant investment of public resources, the obligation to prevent crises becomes even more stringent. It takes on a fundamental ethical importance for the administrative body appointed by the public administration to manage the company.

In this regard, according to Article 6, paragraph 2 of the Consolidated Law on Public Companies (TUSP) "Publicly controlled companies are, therefore, obliged to draw up a specific program of corporate crisis risk assessment, informing the shareholders meeting in the corporate governance report prepared annually at the end of the financial year, attached to the financial statements and published at the same time as the annual report" (Cagnasco, 2018).

The framework of the program for assessing the risk of a corporate crisis should be built based on the specifics of each company, aiming to constantly monitor the health of the company in light of the going concern principle and anticipate the emergence of crisis risk by identifying tools capable of intercepting early warning signs of economic and financial imbalances and enable the governing body to activate an early warning system before the crisis becomes irreversible.

It is appropriate to investigate what corporate crisis risk assessment and measurement tools should be developed by directors of public companies for corporate crisis prevention in order to:

- prepare appropriate organizational arrangements (Bastia & Ricciardiello, 2020);
- detect any economic-financial imbalances (Bocchino, 2023);
- detect any capital imbalances;
- verify debt sustainability for at least the next 12 months;
- verify the prospects of business continuity for at least the next 12 months;
- detect the signs referred to in Art. 3, para. 4, Crisis Code to provide for the timely emergence of business crises (Delli Atti, 2023).

As for public companies, the early detection of crisis symptoms is functional not only for their eventual reorganization but also for the choices to which the controlling public shareholder is called (Irrera & Catalano, 2019). While in private companies, shareholders have the freedom to intervene financially to overcome crises, in public companies such intervention is rigidly circumscribed. This restriction is implemented to prevent shareholder financial support from wasting public resources without valid justification.

*Keywords: Crisis, Publicly held companies, Bankruptcy, Insolvency proceedings.*

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## **ANALYSING THE RELUCTANCE TO BUY FOREIGN PRODUCTS THROUGH CONSUMER AFFINITY, LOCAVORISM, ORGANIC AND INDUCED IMAGE**

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### **ABSTRACT**

Anti-consumption is a growing topic in the marketing literature, despite the complexity of its study and measurement (Lee, 2022). Reluctance to buy (RTB) is a type of anti-consumption that can occur, among others, towards products from a country considered “hostile” or towards specific product categories (Verma et al., 2022). Numerous studies have contributed significantly to the understanding of consumer preferences and the reasons behind them based on variables such as animosity or ethnocentrism, considered “consumer dispositions” towards a foreign country (e.g., Khan et al., 2019).

In the international context of consumption, the concept of consumer dispositions deals with consumers’ perceptions and attitudes towards —and likings for— domestic, foreign and global goods, according to their attitudes towards products from their country or abroad (e.g., Bartikowski et al., 2021). Thus, although several negative dispositions have been analysed to explain consumers’ RTB, very little is known about positive dispositions (Tsaur et al., 2023). This study aims to shed light on two positive consumer dispositions that could explain the RTB from two very different perspectives. First, a new consumer ideology (and preference) towards local products (i.e., locavorism) —and, therefore, the RTB foreign products—. In this sense, pro-local preferences are an increasingly important phenomenon for consumers and businesses, which has attracted interest among scholars in the field of international marketing (e.g., Fong and Chang, 2022). Second, consumer affinity towards a specific foreign country—and, therefore, its products— as a possible mitigating factor for the RTB foreign products. Consumer affinity is defined as a consumer’s positive ‘emotional feeling’ towards a specific foreign nation (Oberecker and Diamantopoulos, 2011).

Furthermore, consumers’ RTB can be influenced by the immense amount of information they receive about different countries and their products through various media (Antonetti et al., 2019). Therefore, another objective of this study is to examine the influence of the different sources of information in the formation of RTB foreign products. In particular, we will study two types of consumer perceived images formed by two different information sources: organic image, which is determined by non-commercial sources, and induced image, resulting from the marketing or promotional efforts of the organizations and institutions related to the product (Almeida-García et al., 2020). The perceived

organic image by consumers may contribute to the increase of RTB products from a particular country, while the perceived induced image by consumers (formed through the efforts made by organizations and institutions) may diminish these RTB foreign products.

For this purpose, the Spanish agri-food sector has been selected as an illustrative example of how the phenomenon of anti-consumption (and more specifically the RTB) can be generated in target markets. Despite the relevance of this sector –it is the most important supplier in Europe and has been highlighted as a clear example of an affinity country in the agri-food product category–, it has been the object of much criticism in some of its main destination markets (mainly Germany). Using a stratified random sampling procedure, adjusting for the gender, age and regional distribution of the German population. A total of 335 valid questionnaires were obtained via an online panel from a professional market research company between January and February 2020. The model will be analyzed using structural equation modelling with PLS-SEM.

In terms of construct measurement, consumer affinity was measured through the Oberecker and Diamantopoulos (2011) scale, which includes three and four items used to operationalize two dimensions of affinity, that is, sympathy (soft emotions) and attachment (strong emotions), respectively. Locavorism was measured by six items following the scale of Riefler et al. (2012). In terms of information sources and in line with previous studies (Lin and Kuo, 2018), organic image was measured using five items and induced image using four items. Consumers' RTB was measured using six items, encompassing general and relative components as two dimensions of this concept according to previous scales by Darling and Wood (1990) and Klein et al. (1998). The general dimension contains items measuring consumers' direct (i.e., non-comparative, non-contextual) avoidance of buying specific foreign products. The relative dimension included consumers' comparative and contextual avoidance of buying foreign products based on domestic product alternatives and situational constraints. Following Harman's (1976) one-factor test and the guidelines of Podsakoff *et al.* (2003), the study ensured that there was no common method bias. Once the scales were qualitatively analysed, the psychometric properties of the operationalizations of the subscales and scales were found using confirmatory factor analysis (CFA). Once the CFA was performed, all factor loadings were significant ( $p < 0.01$ ) for the first and second-order constructs, and the standardised loadings presented indicators with loadings higher than 0.70. The model described a significant percentage of the variance of the endogenous variable RTB, i.e., 27.2%. The results revealed that the path coefficients provided strong support for the proposed model, which is statistically significant and in the proposed direction.

Concerning previous studies (e.g., Verma, 2022), our research adds to the understanding of possible factors that increase the RTB foreign products (i.e., locavorism and organic image), and the different factors that mitigate this phenomenon (i.e., consumer affinity and induced image). These relationships are examined through the effect of consumer dispositions and sources of information. First, this study contributes to the RTB foreign products literature by addressing potential mitigating factors from the perspective of a positive consumer disposition, namely consumer affinity. Results provide support for the expectation that affinity feelings are a key factor in mitigating the RTB products from the country of affinity. Second, this research also contributes to the RTB foreign products literature by analysing possible factors that increase this phenomenon from the perspective of an emerging consumer ideology as 'locavorism'. In contrast with the effect of consumer affinity, our findings show a positive link between locavorism and RTB foreign products. When consumers have an affinity towards a given foreign country, locavorism does not seem to play such an important role in the consumer's decision. In this sense, affinity acts as a strong mitigating antecedent to purchase reluctance. Hence, individuals who feel a certain attachment to a particular foreign country (according to the culture, people, landscapes, etc.), in turn, are not so much influenced by information sources derived mainly from the internet when it comes to continuing to consume do not develop such a RTB foreign products in a context of an image crisis. Third, both sources of information are antecedents of the RTB in the context of international image crises. Both organic and induced image condition the effects of RTB in different ways. Induced image exerts a negative effect by reducing RTB and organic image exerts a positive effect by increasing RTB. Therefore, organic and induced image as sources of information exert countervailing influences. Findings show the relevance of organizational and institutional information sources, which shape the induced image (i.e., cooperatives, public institutions, governments, etc.).

*Keywords: Reluctance to buy, consumer affinity, locavorism, induced image, organic image, agri-food sector, foreign products.*

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## FOSTERING REGENERATIVE VALUE NETWORKS THROUGH TERRITORIAL RESOURCE MANAGEMENT

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### ABSTRACT

The growing socio-ecological crisis is driving a shift in business paradigms from harm reduction to proactive restoration and regeneration of ecological and social systems (de Souza et al., 2019; Hahn & Tampe, 2021; Pagell & Shevchenko, 2014). This shift highlights the importance of developing businesses that not only thrive economically but also enhance the vitality of their operating environments. In this context, this paper explores the role of geographical, environmental and social contexts—termed "territories"—in forming regenerative value networks, specifically through a case study of Karun Eyewear, a forward-thinking Chilean company.

Regenerative businesses are essential as they restore and revitalize the health of socio-ecological systems, from which they draw sustainability and resilience (Hahn & Tampe, 2021). The complexity involved in establishing such businesses amid the vast scale of socio-ecological challenges points to an urgent need for actionable knowledge to support the sustainability transition (Gualandris et al., 2023; Konietzko et al., 2023; Muñoz & Branzei, 2021). This paper proposes exploring the *territory* as an underutilized analytical level that offers firms an opportunity to co-develop regenerative value networks, focusing on how businesses can harness territorial resources to foster regenerative development and sustainable innovation within their value networks.

Our study adopts an abductive reasoning approach, weaving together literature on sustainable supply chain management, principles of regenerative development, and the impact of territorial contexts on business sustainability. This synthesis is informed by an in-depth case study of the pioneering Chilean firm Karun Eyewear, which integrates regenerative principles within its business and supply chain strategies. Karun Eyewear stands out for its commitment to linking natural restoration with rural entrepreneurship, enhancing both product innovation and ecological health. Initial findings from semi-structured interviews and document reviews illustrate Karun's strategies to leverage territorial resources effectively. Future research will include additional interviews to broaden these insights and validate initial assumptions.

Contrasting with traditional, linear business models, the value network concept encapsulates multidirectional relationships and interactions that facilitate the creation and exchange of value within a broader ecosystem (Allee, 2000; Peppard & Rylander, 2006).. A regenerative value network represents an interconnected system of businesses, organizations, and stakeholders collectively

creating value in ways that sustain, restore, and regenerate the socio-environmental and economic systems in which they operate.

Territories, characterized by their unique mix of natural, cultural, and human capital, offer a rich tapestry of resources that businesses can harness to cultivate regenerative practices (Troisi, 2022), and are seen as relational spaces co-created through the interaction between natural and human resources (Dicken & Malmberg, 2017). Moreover, territories act as intelligent containers that accumulate knowledge, dynamically evolving with the interactions within them (Malmberg et al., 1996). These relational, networked territories, rich in unique resources and co-creative dynamics, provide fertile ground for developing regenerative value networks. Such networks pave the way for sustainable development pathways that are economically viable, environmentally restorative, and socially inclusive. Leveraging the role of territories is crucial for businesses, policymakers, and communities aiming to achieve sustainability and regeneration on a broader scale.

Drawing on insights from the development of Karun's value network and integrating two conceptual process models (de Souza et al., 2019; Mang & Reed, 2012), we propose a three-step framework for businesses to co-develop regenerative value networks utilizing territorial resources. This study offers a novel setting that challenges the trade-off between economic and socio-environmental utility, contributing to shifting the narrative from efficiency, scale and specialization to a more balanced approach that prioritizes sustainable and regenerative growth.

*Keywords: Regenerative, Sustainable Supply Chain Management, Territory, Value Networks, Case Study.*

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## SMALL STEPS, BIG IMPACT: ESG REPORTING IN EUROPEAN SMES

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### ABSTRACT

Sustainability is increasingly emerging as a pivotal distinguishing factor and a disruptive tool within the business sector (Sinhania & Saini, 2023; Diwan & Amarayil Sreeraman, 2023). The spotlight on sustainability has intensified in recent years, as organizations recognize the significance of environmental, social, and governance (ESG) reporting. This has been accelerated by the Corporate Sustainability Reporting Directive (CSRD) launched in 2022. This directive comprises a set of guidelines detailing how large and medium-sized companies should prepare their sustainability reports. These new regulations are projected to impact over 50,000 businesses within the European Union (European Commission, 2022). Consequently, efforts to develop ESG indicators for businesses are ongoing and expanding, driven by the escalating necessity to meet these requirements (Kandpal, et al., 2024).

An analysis of the literature reveals that there are over eleven distinct frameworks outlining the ESG reporting process, which are classified as voluntary disclosure frameworks, guidance frameworks, and third-party aggregators (Chopra, et al., 2024). This diverse landscape poses a significant challenge for stakeholders, investors, and enterprises in formulating a unified approach to ESG reporting (Senadheera, et al., 2021; Yebenes, 2024). However, while this poses a challenge for large organizations it is particularly onerous for small to medium-sized enterprises (SMEs). Despite its importance, many SMEs struggle to implement effective reporting processes due to unclear strategies, undefined plans, and insufficient tools to support their needs. However, it is becoming increasingly apparent that they must rectify this deficit (Garrido-Ruso, M., et al., 2024) if they are to survive in dynamic supply chains.

To meet this challenge, we developed a user centered ESG reporting framework customized to the needs of SMEs taking into consideration the European Financial Reporting Advisory Group (EFRAG) sustainability reporting standards (ESRS: European Sustainability Reporting Standards). This framework aims to increase the capacity of SMEs in Europe to effectively establish the process of analysis and reporting of sustainability performance according to ESG criteria. It comprises an e-learning course on ESG capacity building for professionals, a training methodology for the

development of self-reporting competencies for SMEs' employees and it is supported by an online web-tool designed to support SME employees to assess and report on their companies' ESG performances.

We are currently testing the validity of the framework. To do this we recruited 75 consultants and trainers to assess the quality of the content and to ensure that the framework meets the needs of the end user using defined criteria for assessment. Participants were purposively selected based on their experience with SMEs.

This paper presents empirical data captured and analyzed from 75 participants. Initial feedback from consultants indicates a positive reception among consultants, with a notable improvement in their understanding of the framework's intricacies. To ensure the validity and reliability of the research findings, a robust protocol will be followed. Data will be collected from seventy-five (75) participants for thorough analysis, employing both qualitative methods such as feedback assessments and quantitative measures to assess improvements and identify strengths and areas for enhancement within the framework. The combination of qualitative and quantitative approaches ensures a comprehensive understanding of participants' perceptions and allows for triangulation of findings, thus bolstering the credibility and trustworthiness of the research outcomes. Additionally, measures will be taken to minimize bias and enhance the generalizability of the results, contributing to the overall validity and reliability of the study.

Moreover, preliminary assessments reveal areas of strength (to be exploited) and potential improvement (to be addressed). It is anticipated that SMEs utilizing the reporting template will perceive the reporting process as more structured and feasible, potentially leading to enhanced transparency and accountability in their ESG disclosures. Statistical analyses of the data are expected to unveil valuable insights into areas for refinement, thus paving the way for more effective dissemination of ESG reporting practices among SMEs.

This research contributes to significant new theoretical perspectives, yet it also carries certain limitations that warrant attention. The study's findings and insights are targeted at the specific context of European SMEs and their adaptation of EFRAG/ESRS-based ESG reporting frameworks. Extrapolating these findings to SMEs in other regions or those operating under different regulatory environments may not be appropriate due to variations in business practices, regulatory frameworks, and cultural contexts. Thus, the generalizability of the study's conclusions beyond the European SME landscape may be limited.

*Keywords: ESG reporting template, SMEs, EFRAG/ESRS standards, pilot training, consultant assessments, sustainability reporting, sustainability disclosures.*

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## IDENTITY PATTERNS, WORKPLACE ENGAGEMENT AND WORKPLACE BELONGINGNESS AMONG ARABS IN ISRAEL.

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### ABSTRACT

This study addresses the associations between identity patterns of minorities and emotional bonding to organizations regarding Arabs in Israel. There is a substantial body of literature regarding labour market integration of minorities into contemporary economies and organizations (Cheung, 2014; Khattab et al., 2020), most of which addresses labour market participation or basic measures such as income or classification to occupational profiles (Khatab and Husein, 2018; Shdema et al., 2019). The emotional bonding of minorities in labour market contexts have been investigated mainly regarding participation in the paid labour market, suggesting that a tendency of minorities to identify with the majority is associated with higher employment rates, while the tendency to adopt oppositional (ethnic) identities, is associated with lower probability to be employed (Batto & Zenou, 2010; Carillo et al., 2023). Emotional bonding of minorities to organizations employing them however, did not receive considerable attention. The current study aims at filling up this gap by examining the associations among identities, workplace belongingness and workplace engagement.

Looking at Arabs in Israel is particularly interesting due to the structured contradiction between their state identity and the ethno-national one due the active Palestinian-Israeli conflict. Additionally, as a native minority they do not face immigration issues and hence are homogenous in this sense (Amara & Schnell, 2004; Shdema et al., 2021).

The study relies on a designated survey held among 244 working Arab respondents analyzed quantitatively. Based on the literature, we related to their four main identities – Arab, religious (Muslim or Christian), Palestinian and Israeli. We focused particularly on the Palestinian and Israeli identities as they seem to have the prominent effect in labour market contexts, and as expected, were negatively associated ( $r=-0.11$ ;  $p<0.04$ ). We used Schaufeli et al., (2006) questionnaire for workplace engagement and Godard (2001) for workplace belongingness, where these two domains were positively associated ( $r=0.44$ ;  $p<0.001$ ). In the analysis we employed a series of correlation and regression tests to uncover the associations among Arabs identities and their emotional bonding to organization they were employed in.

Core findings disclose a significant connection between Israeli identity and workplace engagement. This association is consistent also when controlling for the demographics and is accountable for 18.7%



of the variability. Moreover, according to  $\beta$  values, Israeli identity was found to be the prominent measure in predicting workplace engagement. The statistical examination however did not yield a significant association between Israeli identity and workplace belongingness. Palestinian identity was not found to be statistically significant with the emotional measures studied. The study's main conclusion is that shared identity of minority and majority populations is associated with emotional attachment to organizations, but antagonistic identity does not bear an effect. An additional conclusion is that engagement in a work organization is easier to attain compared developing a sense of belonging. This probably stems from the fact that it is easier to find interest in job or carrier matters than it is to feel belonged.

The study findings can bear contribution also to practice. It can provide a platform to assess which characteristics of workers are associated with high and low workplace engagement and belonging in terms of occupational measurers (i.e income, rank and type of position), identities and demographics. Based on these clusters to develop workshops and other activities to enhance their workplace engagement and belonging.

*Keywords: workplace engagement; workplace belongingness; organizations; minorities, identity, Arabs, Israel.*

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# WHAT MAKES LEADERS TO SUCCEED OR FAIL WHEN THEY ACQUIRE KNOWLEDGE? A SYSTEMATIC LITERATURE REVIEW AND THE WAY FORWARD

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## ABSTRACT

### 1. INTRODUCTION AND GENERAL SCOPE

Knowledge acquisition in the context of MNCs is a complicated process that often reveals both success and failure factors. Despite its merits, the existing literature review has not yet, provided us with a thorough understanding of the agreed motives of knowledge acquisition including, among others, the types of knowledge to be acquired as well as what indicators may define the critical success factors of the process or either (Ferraris et al., 2018). In the context of partnership, although such actions of strategizing might be proposed among the effective ways of acquiring new knowledge a lack of a common understanding of the partnerships formulated within- and with various MNCs was also observed. For instance, the plausible types of partnerships, the involved parties and the duration of the partnerships which lead to successful knowledge acquisition remain relatively unexplored. The existing literature also fails to focus on issues on interdependence between partners which may affect the outcome of the attempts made by the organizations to acquire new knowledge (Ferreira and Franco, 2019). Such research gaps led us to also theorize that the role of leadership in the process of knowledge acquisition within MNCs is found to be fundamental in managing both the critical and success factors emerge when knowledge acquisition takes place within the context of MNCs.

Subsequently, therefore, the study acknowledges the necessity of a Systematic Literature Review (SLR) to be conducted and formulates the following research questions: (1) What are the motives of knowledge acquisition in the context of MNCs? (2) What are the types of strategic partnerships, which are formulated within- and with MNCs towards this perspective? (3) To what extent does the level of interdependence between the partners affect the acquisition of knowledge? (4) What is the role of leadership in managing knowledge acquisition within the MNCs partnerships?

## 2. METHODS AND PROCEDURES

To address the research questions comprehensively we conducted a SLR. Such methodology enabled us not only to evaluate what the current research supports around such topic; but also, to expand on the findings and domains, identify research gaps as well as generate new knowledge applicable to practise (e.g., Danese et al., 2018). Along the principles of the SLR, the study follows a search strategy that is based on the research questions which were initially formulated upon the identification of the research gaps. In doing so, various meetings and comprehensive discussions took place with the co-authors (e.g., Leonidou et al., 2018). Then, both inclusion and exclusion criteria were defined as follows.

**Inclusion criteria:** The three main inclusion criteria were: (i) the search boundaries; (ii) the search strings and (iii) the time-frame (Dada, 2018). We focused on academic journals in the fields of *General Management, Innovation, Strategy, Organization Studies, International Business, Operations and Technology Management, Entrepreneurship and Small Business Management*. As the focus is mainly on MNCs, we included only studies relevant to MNCs published in top-tier academic journals; both empirical and conceptual ones (e.g., Wilson et al., 2017). The search was limited to the databases of Business Source Ultimate (EBSCO) as well as to the Science Direct, which both are considered amongst the most complete scientific databases on international management studies (Hewett et al., 2018). No time-frame was set for data collection; instead, an open at any time search without customizing the time frame (Vrontis et al., 2021).

**Exclusion criteria:** The initial study sample was further evaluated based on certain exclusion criteria. First, we considered as a final study sample only full-text and peer reviewed publications published in English (all book chapters, book reviews, editorials, extended abstracts, research published in conference proceedings as well as studies not published in English were excluded). Second, only top-tier academic outlets, from the aforementioned academic fields, which are only included in the Association of Business Schools Academic Journal Quality Guide (ABS 2021) with the rank of 4\*, 4 and 3 indicators were reviewed (papers which are ranked in 2 and 1 categories were exclude). Third, duplicates were removed (Kauppi et al., 2018).

**Search keyword formula:** The search strategy helped us evaluate titles, abstracts and keywords of the study sample, so that a comprehensive list of items was then created. The listed items were, then, synthesized in the keyword search formula that is necessary to retrieve the initial pool of academic sources.

The search keyword formula we used was the following:

("knowledge acquisition" OR "knowl\* information" OR "knowledge management" OR "new knowledge") AND ("multinational" OR "international" OR "transnational" OR "global" OR "geographic space" OR "FDI" OR "Foreign Direct Investment" OR "distance" OR "subsidiary" OR "regional" OR "MNE" OR "MNEs" OR "MNC" OR "MNCs").

### 3. STUDY CONTRIBUTIONS

The study systematizes existing research on the role of leadership in knowledge acquisition within the context of MNCs; thus, explaining the style of leadership that may best strategize to acquire knowledge from various sources. The study provides new insights around the motives and the peculiarities of knowledge acquisition in the context of MNCs, specifying the type of knowledge to be acquired in such partnership, the characteristics of the strategic partnership which should be formulated toward this direction. It also sheds light to the way leaders may manage partnership intercedence. The conceptualized knowledge that emerges from this study provides a comprehensive framework of the critical success and failure factors in knowledge acquisition within the content of MNCs and the way leaders manage them.

*Keywords: knowledge acquisition; leadership; strategic alliances; Multinational Corporations (MNCs) systematic literature review*

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# MANAGEMENT IN THE PUBLIC SECTOR: ATTRACTING/RETAINING POLICIES AND EMPLOYER BRANDING TO REDUCE THE GAP WITH THE PRIVATE SECTOR

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## ABSTRACT

## INTRODUCTION

Working in the public sector has traditionally been viewed as one of the best options to balance favorable economic conditions and the security of having a job for life. Therefore, public sector work has never had to worry too much about attracting new workers and keeping people within its workforce. However, the socio-economic upheavals of the post-covid era seem to undermine the public sector's image of excellent workplace. Today, in fact, first of all the new generations are less attracted by the static nature of a job that lasts a lifetime, showing greater enthusiasm towards the opportunity to have different experiences. Second, compared to the past there is greater ease of moving abroad (especially within the European Union/EU) and an immeasurable "flexible and technological availability" which brings the possibility of finding better working conditions closer. Third, the non-sudden responsiveness of public sector wage policies to adapt to the growth of inflation and the increase in the cost of living, takes it away from the traditional "fair enough" conditions moving even further away from the best performers' consideration. As a result of the conditions described, public sector is experiencing problems of attracting new young workers (with many open positions that cannot be filled) and retention of best performers (as always more comparing to the past they decide to leave also in the very first months after being hired). For these reasons, the primary objective of the current study is to assess the management of brand and image as a tactic for drawing skilled personnel in the public sphere. In pursuing this goal, the study focuses on enhancing employer branding as a viewpoint encompassing both outward-facing and inward-facing marketing approaches. These efforts aim to allure and maintain individuals with exceptional abilities capable of generating societal benefits akin to those in the corporate domain.

## LITERATURE BACKGROUND, GAP AND RESEARCH QUESTIONS

Employer Branding (EB) is not a new concept in the literature, with various perspectives defining it. These perspectives consider its functional and theoretical underpinnings (Backhaus and Tikoo, 2004) and analyze its attributes and relative positioning (Berthon et al., 2005). Specifically, employer brand refers to the knowledge and perceptions about a company as an employer (Lloyd, 2002), portraying it as a desirable place to work (Rampl, 2014; Saini et al., 2014). This concept often relates to how organizations market their offerings to current and prospective staff, communicate with them, and maintain their loyalty (Biswas and Suar, 2014). Employer branding strategies encompass both external and internal approaches, promoting the company's image as an appealing employer both within and outside the organization. These strategies also emphasize recruitment messaging to attract job seekers who align with the company's needs, vision, mission, priorities, and image (Biswas and Suar, 2014).

In addition, Backhaus and Tikoo (2004) suggest that employer branding is closely tied to organizational culture and influences organizational identity. In fact a strong employer brand fosters positive attitudes among employees, leading to greater satisfaction and commitment (Del Vecchio et al., 2007; Rampl, 2014). In this way, employer branding represents a strategic framework that integrates human resource management and marketing practices (Biswas and Suar, 2014; Maxwell and Knox, 2009) and for this reason Job seekers often differentiate companies based on their employer brands, making a well-developed brand a competitive advantage that significantly influences their career intentions (Backhaus and Tikoo, 2004; Rampl, 2014; Turban and Greening, 1997). So, basically, what we're saying here is that if job seekers aspire to work for companies that embody particular values (Edwards, 2005) and in today's business environment, attracting and retaining loyal and competitive employees is challenging, then a robust employer brand enables organizations to firmly position themselves in the competitive labor market (Collins and Stevens, 2002). While widely prevalent in private companies, research in public organizations is scarce (Whelan et al., 2010). Nonetheless, as seen employer branding is pivotal in talent management, with the primary goal of drawing in top-notch candidates and keeping current employees engaged within the organization. Therefore in the public sector should embody an innovative perspective by applying traditional marketing principles to the processes of recruiting, selecting, and retaining human resources. For all the reasons shared above, our research questions for the present study will be:

- *Do private sector employer branding strategies work in the public sector? and if yes, under what circumstances?*
- *Is it possible for employer branding to aid the public sector in attracting and preserving top-notch staff?*
- *What are the principal tactical elements in employer branding for the recruitment and retention of skilled individuals in the public sector?*

## **METHODOLOGY**

The paper adopts a qualitative approach collecting data through observations and interviews as previously done in similar works (Drake and Chen, 2023). In particular, the interviews will consist in a semi-structured format in which participants will have the opportunity to add extra-content, increasing the exploratory nature of the study (Palmucci, 2023). At a subsequent phase, the gathered data will undergo examination utilizing the content analysis technique (Crouse et al., 2011) wherein the participants' replies will be scrutinized. Subsequently, 'thematic components' identified by the authors will be employed as a foundation for addressing the guiding inquiries and facilitating comparison with the outcomes of other researches.

## **EXPECTED RESULTS, IMPLICATIONS AND CONTRIBUTIONS**

From the result of our analysis we expect to empirically verify that the practice of public employer branding not only can be applied but it can help public Italian sector in the challenge to strive to become better places to work as well as recruiting and retaining talent within the public sector, and prevent them from leaving, as has recently been happening, often moving towards private employment that seeks them out and offers more adequate compensation or faster career growth opportunities. Employees can serve as vital advocates in crafting an employer branding approach; nevertheless, they can equally emerge as formidable adversaries if their encounters within the organization have been unfavorable, therefore we expect to highlights that the practice of employer branding helps constructing and upholding an actor network, such as the ability/process of involving actors and keep them aligned. Our study will contribute to two different streams of research. First, it will contribute to enrich the current knowledge about public employer branding; second, it will bring new empirical evidence to the employer branding literature in the public sector. As for H.R. management implications, our result may be a useful strategic tool for Italian public sector top management and professionals within human resources, marketing and communication who are tasked with implementing an employer branding strategy (Christiaans, 2012). This work is not without limitations: first in fact they refer to the poor generalizability of the results outside the Italian borders resulting slightly valid in other national contexts. Regarding this, the sample could be expanded to other countries that have similar socio-economic characteristics such as other southern European states. Second, the study only takes into consideration clerical jobs in some public sector institutions. To arrive at a better understanding of the phenomenon, future studies could take into consideration more institutions and the differences with other professions in addition to employees.

*Keywords: Management; HR; Public sector; Employer Branding; Attraction; Retention*

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## THE SIGNIFICANCE OF B2C LOCAL, SMALL OWNER-MANAGED STORES IN THE AGE OF DIGITALIZATION IN GERMANY

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### ABSTRACT

Online sales are treated as the prevalent sales method, leading to an overwhelming plethora of research on online sales, with physical sales addressed as ROBO. However, online sales are declining in volume and Euro in Germany compared to pre-corona levels. Though respecting internet shopping and the dominance of retail chains, only 15 % of the German total non-food sales volume is generated online, and 75 % of Germans appreciate shopping in local, owner-managed stores. Evoking the significance of owner-managed stores to German customers and embracing local B2C enterprises, explorative interviews focused on the motivation, customer attitudes, and circumstances beyond the economic and communal factors addressed in previous research. The content analysis according to Mayring revealed the customer's perceptions of convenience, trustworthiness, involvement, exposure to the assortment, and sensory evaluations in local stores. This research contributes to the understanding of consumer behavior in small businesses. It challenges some established notions, particularly around convenience and variety-seeking behavior, suggesting a need for theories that better accommodate the unique dynamics of local owner-managed stores. It further correlated the level of personal involvement with the expressed desire to visit owner-managed businesses. Similarly, the need for sensory input significantly correlates with the desire to visit local stores. Trust is a significant factor contributing to the frequency of customers visiting owner-managed enterprises. Thematic analysis according to Kuckartz uncovered, that while owner-managed stores are favored for their reliability and personal touch, in-store customer interactions can lead to feelings of pressure or discomfort.

*Keywords: Local Business, Owner-Managed Enterprises, In-Sales, Shopping Channel Choice, Consumer Behavior, Consumer Trust, Shopping Convenience, Outlet Exploration*

# THE HOUSEHOLD FOOD WASTE SORTING BEHAVIOR: LITHUANIAN CASE STUDY

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## ABSTRACT

## INTRODUCTION

With population growth and the acceleration of urbanization, municipal household waste in cities is increasing dramatically. Food waste is a significant global challenge with substantial environmental, economic, and social implications (Paul & Ghosh, 2022). The main challenge for waste management is that inadequate food waste is not properly segregated, collected, and managed. According to Eurostat, Lithuania per person had an average of 86 kg of food waste (Eurostat, 2023). Despite the high amount of food waste generated in Lithuania, according to the European Compost Network's 2022 study, Lithuania is one of the countries with less than 52 kg of biodegradable waste per capita per year (ENC, 2022).

Creating an effective recycling system requires an understanding of what motivates people to recycle and what policy instruments with their incentive mechanisms will have the desired effect (Finnveden et al., 2013). Comprehending consumers' behaviors and attitudes toward food waste sorting is essential for developing targeted interventions and policies to address this issue.

**The research problem.** Separate collection of food waste requires new infrastructure and waste collection equipment. But the most important challenge may be the social factor, i.e., the willingness of the Lithuanian population to separate food waste.

**The aim** is to review households' food waste management in Lithuania, identify the main segregation issues, and propose solutions.

## METHODOLOGY

The study used a questionnaire survey with eleven demographic characteristics and thirty-one questions. The questionnaire was published online, and a link was sent to respondents. The survey is available at was carried out in the summer of 2023 in two different regions of Lithuania: Alytus and Telšiai. In the Alytus region, food waste has been collected separately since 2018 in the Alytus region,

while in the Telšiai region, food waste has not yet been collected separately. The data collected was analysed using descriptive statistical methods. JASP software was used to analyse the data.

**Theoretical Background.** Food management behaviours related to the occurrence of food waste include food planning, shopping, storing, preparation, cooking and consumption of leftovers, while the disposal-related behaviour include different types of disposal practices (i.e., how the FW is disposed of) (Michelini *et al.*, 2018; Paul and Ghosh, 2022). The main factors that impact behaviour, such as awareness, attitudes, cognitions, emotions, and external, context-related factors, such as available technologies or the behaviour of others (Roodhuyzen *et al.*, 2017; Vittuari *et al.*, 2023). Sorting municipal waste is mostly planned behaviour that requires individuals to decide separate or not food waste. Meanwhile, consumers' behavioural intentions related to sorted waste management may include complex and multi-dimensional factors such as attitudes, subjective norms (Chan and Bishop, 2013), perceived behavioural control, coherence, knowledge and perceived moral obligation (Pakpour *et al.*, 2014).

## MAIN RESULTS

The study analysed the attitudes of the Lithuanian population towards sorting food waste. Four response options were used to answer the questions: yes, probably yes, probably no and no. The data collected shows that almost all respondents know how to sort food waste. Many respondents also agree that food waste should be separated at home. The question on food waste sorting was asked in a slightly different way for the regions. The Alytus region was asked whether they sort food waste, while the Telšiai region was asked whether they will sort food waste when they have the opportunity. The data varied slightly by region, but the most surprising finding was that in the region where food waste is already sorted, as many as 18% of the respondents indicated that they do not sort food waste. The biggest problem is that people do not see the benefits of separating food waste. Scepticism is particularly high in the Alytus region and among people living in apartment blocks.

An analysis of Lithuanian residents' views on the negative aspects of food sorting found that food sorting requires extra space. This is especially true for people living in cities and apartments. There are still many Soviet-era apartment blocks in Lithuania with tiny kitchens. Surprisingly, quite a large number of respondents indicated that sorting food waste would not require additional costs. People living in the Telšiai region and in apartment blocks were more likely to say that sorting food waste would take more time. Sorting food waste also creates unwanted odours, which are more feared by people living in the Telšiai region.

The study aimed to identify the most effective incentives for residents to sort food waste. The main incentive was found to be a lower cost of waste management. Information about sorting is least effective for people living in rural areas. Residents have very mixed views on control and penalty systems. Many respondents do not think that this would encourage the sorting of food waste. The availability of cheaper compost only encourages those who have the possibility to use compost on their farm.

## CONCLUSIONS

1. People's food waste management behaviour does not depend on the region analysed, but on where they live and the infrastructure they use.
2. More attention should be paid to explaining the benefits of food waste separation and the circular economy to the population.
3. As monetary incentives are the most influential factor in consumer behaviour, consideration should be given to changing the way in which waste is paid for. The possibility of introducing a pay-as-you-throw pricing model for the disposal of municipal solid waste should be analysed.

*Keywords: household waste management, food waste sorting, waste sorting behavior.*

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## PAST TRENDS AND FUTURE DIRECTIONS IN GREEN HUMAN RESOURCE MANAGEMENT RESEARCH: A BIBLIOMETRIC ANALYSIS

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### ABSTRACT

**Introduction and Relevance:** Green human resource management (GHRM) is becoming a strategic function of the organisation that can contribute to the successful implementation of environmental practices, to achieve environmental sustainability (Renwick *et al.*, 2013; Jabbour and de Sousa Jabbour, 2016; Ansari *et al.*, 2021; Marrucci *et al.*, 2023). The significance of GHRM is increasingly recognized and has received growing attention from scholars, however, a need to systematically review and synthesize the literature in this field remains. This research offers a comprehensive overview of GHRM literature highlighting the major themes in the current developments along with the new trends and patterns for future research observed in this field.

**This study aims** to examine GHRM knowledge has been constructed, disseminated, and shaped over time and make suggestions for future research. The following **research questions** were raised:  
RQ 1: What are the current status and trends of publications and citations in the GHRM literature?  
RQ 2: Which countries, journals universities and authors have contributed the most to the GHRM literature?  
RQ 3: What are the most frequently used theories, keywords and thematic areas in the literature?  
RQ4: What are emerging trends and research gaps that will shape the future GHRM research?

**Methodology:** Bibliographic data on green human resource management were searched using the Scopus Database which was chosen as the most comprehensive peer-reviewed research base on the topic under review. This study employed several search procedures following the PRISMA 2020 Protocol, to make sure all publications about GHRM were covered.

In the first step, the following search query was given as: TITLE-ABS-KEY ( "green human resource management" OR "GHRM" OR "green HRM" OR "Green Human Resource\* Management" OR "Green HRM" OR "Green HR management" OR "green human resource" OR "green hr" OR "green human resource practices" OR "GHRMP" OR "green HR practices" OR "green HRM practices" OR "green human resource\* management practice\*" OR "Environmental human resource management" ). The initial search led to the identification of 959 documents from 2008 to 2024. Then, the search was

restricted to article document type and English language which resulted in the identification of 753 articles from 2010 to 2024.

In the second step, titles, abstracts, and keywords from all 753 publications were thoroughly examined to make sure that all the articles that were extracted during our search were related to GHRM. After eliminating papers that were not or less relevant and duplicates, we obtained a final collection of 684 articles from 2010 to 2024.

VOS viewer software was used for extracted data analysis and visualization (Van Eck and Waltman, 2010). Performance analysis and science mapping (citation, co-citation, bibliographical coupling, and keyword co-occurrence analysis) were performed (Zupic and Cater, 2015).

**Results:** The analysis revealed a significant increase in the number of publications in the field of GHRM. There is a slow increase between 2010 and 2018, but from 2019 onwards, the number of publications has risen sharply, with the highest number of publications in 2023 (216 published articles). The growing interest in GHRM research is also reflected in the increasing number of citations (5 555 citations in 2020).

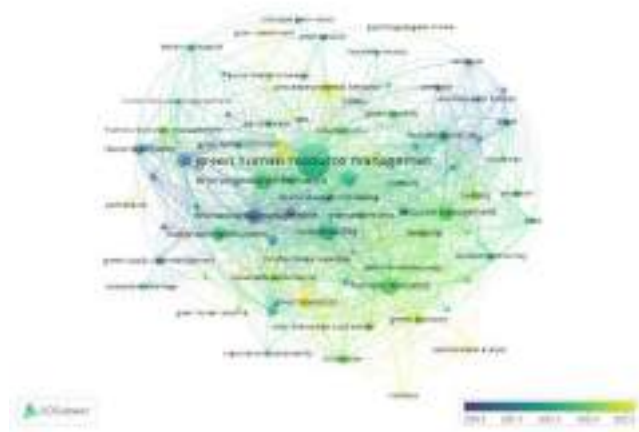
Thirty scientific journals published at least five studies in the field of GHRM. *Sustainability (Switzerland)* (58 articles), *Journal of Cleaner Production* (36 articles), *International Journal of Manpower* (27 articles), *Business Strategy and the Environment* (21 articles), *Corporate Social Responsibility and Environmental Management* (20 articles), are among the top five journals that have published the maximum number of articles.

An analysis at the author level was performed, revealing that 892 out of 1843 authors met the threshold after keeping the criteria as the minimum number of documents per author ( $n = 1$ ) and number of citations per author ( $n = 10$ ). Authors who have made major contributions to GHRM research: M. Y. Yusliza (20 articles, 1355 cit.); C. J. C. Jabbour (12 articles, 1321 cit.), T. Ramayah (12 articles, 1157 cit.), D.W.S. Renwick (6 articles, 1387 cit.).

GHRM studies use 33 different theoretical approaches, the most common of which are ability–motivation–opportunity theory, resource-based view, theory of planned behaviour, natural resource-based view, social exchange theory, social identity theory, and stakeholder theory.

As a result of the analysis, a 5-cluster structure of field research is determined: environmental performance (cluster 1); sustainable development (cluster 2); resource management (cluster 3); organisational citizenship behaviour (cluster 4); and green innovation (cluster 5).

Keyword co-occurrence network with temporal analysis showed that the latest research is in green innovation, green commitment, commerce, climate change, green intellectual capital, responsible leadership, green creativity, green organisational culture, organisational citizenship behaviour, and green knowledge (Figure 1).

Figure 1. *Keyword co-occurrence network with temporal analysis*

**Conclusions and Practical Implications:** By examining past trends and outlining future research directions, this study contributes to the ongoing discourse on GHRM, emphasizing its importance for organisational sustainability and providing guidance for future research. This study identified research gaps and emerging trends in GHRM (linking with green innovation, green commitment, commerce, climate change, green intellectual capital, responsible leadership, green creativity, green organisational culture, organisational citizenship behaviour, and green knowledge), offering valuable insights for scholars and practitioners seeking to advance understanding and implementation of green HR practices.

*Keywords: Green Human Resources Management; Systematic Literature Review; Bibliometric Analysis; Science Mapping; Performance Analysis; Scopus*

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## OPPORTUNITIES FOR DEVELOPMENT OF SLOW TOURISM IN POĽANA BIOSPHERE RESERVE

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### ABSTRACT

Biosphere reserves are a specific type of protected area found around the world. Unlike other protected areas, they allow for socio-economic activities to take place within their valuable and unique natural conditions. The philosophy of UNESCO states that biosphere reserves are places for sustainable development. This paper focuses on the slow development (slow city) in the Poľana biosphere reserve in the Slovak Republic as a suitable approach to strengthen its development while protecting the unique environment.

This paper aims to identify opportunities for the development of slow tourism in the Poľana biosphere reserve in the Slovak Republic through analysis of the territory, relevant sources, statistical data, and practices of foreign biosphere reserves. We believe that the gradual progress through slow tourism can help address not only the socio-economic issues of the area, but also facilitate the transition of the regional economy towards sustainable and resilient development. The primary research has identified that the Poľana biosphere reserve has a rich potential for the development of slow tourism. The region provides a wide range of exceptional products and experiences, but it requires assistance not only from local and regional stakeholders such as government officials, entrepreneurs, and citizens, but also from the central government. The paper presents partial results of the project APVV-20-0108 Implementation of Agenda 2030 through biosphere reserves in the Slovak Republic and VEGA 1/0343/23 Modern approaches to the development of cities and regions.

*Keywords: slow tourism, biosphere reserve, nature protection, development, regional quality mark, local traditions*



## DECENTRALIZED FINANCE: BIBLIOMETRIC AND CONTENT ANALYSIS

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### ABSTRACT

The last global financial crisis in 2008 exposed serious deficiencies in the traditional financial system. The financial system structure revealed itself as fragile and unstable exhibiting characteristics consistent with the Minsky financial instability hypothesis (Nikolaïdi, 2021). An unexpected aftermath of the crisis was the emergence of Bitcoin cryptocurrency. The blockchain technology, which is the foundation for Bitcoin, allowed for the first-time monetary transactions on the internet without the involvement of any centralized institutions (Nakamoto, 2008). From 2016 onward, new financial services solutions that operate and interact on blockchain infrastructures gained traction (Eikmanns et al., 2023). Specifically, Ethereum implementation allowed smart contracts to be defined and executed over the blockchain (Buterin and Vitalik, 2014). Marking another landmark in the evolution of this technology. Smart Contract enables coding the set of terms of the agreement into software applications. These applications can manage lending and borrowing by governing the terms of the loans, interest rates and collateral management. These characteristics reduce transaction costs and information asymmetry (Grassi *et al.*, 2022), thus possible bringing financial services to 1.7 billion people in the world who currently don't have that access (Bennett, Mekelburg and Williams, 2023). DeFi inherits blockchain characteristics therefore it is permissionless, openly auditable, (pseudo) anonymous and decentralized. DeFi is also non-custodial (Shah et al., 2023; Werner et al., 2023). Because of this, DeFi aims to revolutionize and disrupt traditional finance services and markets (Amler *et al.*, 2021). At the time of this writing, DeFi protocols have a Total Value Locked (TVL) of U\$D 95 billion.

Decentralized Finance (DeFi) is a rapidly evolving field characterized by its nascent stage and its interdisciplinary foundations. The number of academic DeFi publications is rapidly increasing in these different disciplines (Meyer et al., 2022). As such, it is challenging to comprehend the current academic literature in a way that will allow us to generate new valuable research. The field of DeFi is characterized by a dynamic landscape of evolving knowledge and competing ideas. Most of these discussions may be implicit within the literature, so it is worthy of bringing attention and elaboration on them. Examples could be role of regulation, relevance of financial intermediation or systemic risk theories in DeFi. To properly capture the research streams within the academic literature, and to bring a structured approach for the successful continuation in the development of DeFi we conduct bibliometric and content analysis on a corpus of 275 articles extracted from the Web of Science and



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## WHY DO YOU REFUSE TO BUY? EXAMINING THE INTENTION TO BOYCOTT ETHICAL FASHION

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### ABSTRACT

Ethical fashion aims to reduce negative impacts on people, animals, and the environment. Consumers have shown a positive attitude toward ethical fashion (Bagot, 2013; Micheletti, 2003), expressing outrage through calls for boycotts of fashion brands exposed for poor treatment of workers and cruelty to animals (Birch, 2012; Bagot, 2013). Despite the indisputable benefits of ethical fashion practices, the demand for fast fashion continues to grow, with a compound annual growth rate (CAGR) of 8.8% in 2022, projected to reach 7.7% in 2026 (Businesswire, 2022). Thus, while the benefits of ethical fashion are undeniable, consumer reception remains somewhat mixed, with consumers still consuming fast fashion plagued with various ethical issues (Igini, 2022; Morgan and Birtwistle, 2009).

Although messages emphasizing the importance of ethical fashion and the urgency of ethical consumption have permeated businesses and society, market statistics paint a different picture. The increase in fashion waste, production, and landfill, coupled with the decline in the number of times a garment is worn (Igini, 2022), and the comparison between the growth of the ethical fashion market and the global fashion market (Businesswire, 2021), indicate that only a specific segment of consumers embrace ethical fashion, while the majority, though aware of the issues, do not. Factors such as economic rationalization, where consumers prioritize value for money, and institutional dependency, where consumers believe governments will regulate products ethically, influence consumers not to engage in ethical consumption (Deloitte, 2022; Eckhardt et al., 2010).

Existing literature mainly focuses on product or consumer attributes that positively affect ethical consumption (Carrigan and Attalla, 2001; Eckhardt et al., 2010). However, research on factors driving consumers to avoid purchasing ethical fashion remains scarce. To address this gap, this study examines the relationships between moral identity, cynicism, moral disengagement, and the intention to boycott ethical fashion products (see Fig. 1).

An online survey was conducted among elder Generation Z and millennials, with 547 respondents in Japan. The structural model was tested with AMOS 28, demonstrating a good fit:  $\chi^2/df = 2.006$ , GFI = 0.928, AGFI = 0.906, TLI = 0.964, CFI = 0.970, SRMR = 0.0393, and RMSEA = 0.043. The

results indicate that moral identity is significantly and negatively related to the intention to boycott ( $b = -0.339$ ,  $S.E. = 0.056$ ,  $p < 0.001$ ), while cynicism is significantly and positively related to the intention to boycott ( $b = 0.309$ ,  $S.E. = 0.059$ ,  $p < 0.001$ ). In terms of indirect relationships, moral disengagement fully mediates the relationship between moral identity and the intention to boycott. Additionally, moral disengagement partially mediates the relationship between cynicism and intention to boycott (Indirect = 0.121,  $S.E. = 0.030$ , 95% CI [0.065, 0.183]).

One novel finding from this study refutes past literature on the relationship between moral identity and moral disengagement. The results contradict existing literature, which posited a negative relationship between moral identity and moral disengagement (Detert et al., 2018). The findings suggest that moral identity does not inhibit moral disengagement; instead, it increases with higher levels of moral disengagement. This study also highlights the importance of cynicism in ethical consumption. The contradiction in the findings expands the study of cynicism, where highly cynical individuals rationalize their suspicions, mistrust, and negative feelings, resulting in lower moral disengagement and the perception that their actions are wrong.

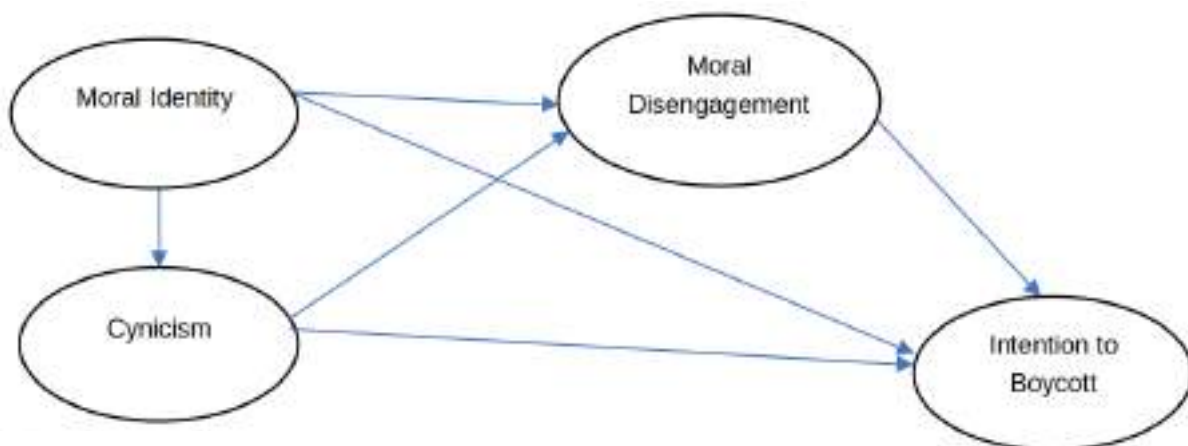


Fig. 1: Conceptual Model

*Keywords: Moral identity, Cynicism, Moral disengagement, Intention to Boycott, Ethical fashion, Ethical consumption, Fashion consumption*

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# PRECISION AGRICULTURE TECHNOLOGIES IMPACT ON THE PROFITABILITY OF WINE-GROWING COMPANIES: A CASE STUDY IN ITALY

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## ABSTRACT

## INTRODUCTION

Rising input costs occurred over the last few years due to the ongoing wars and the recent COVID-19 pandemic has significantly reduced the incomes of many EU farmers and putting a strain on survival of several farms (Moreno and Andújar, 2023). In this scenario, precision agriculture technologies (PATs) can play a key role to reduce production cost as well and consequently to improve revenues (da Silveira et al., 2023). PA can be defined as “the art and science of using advanced technology to enhance crop production” (Srbínovska et al., 2015, p.1), through a rational and sustainable use of resources to obtain more sustainable and profitable productions thanks to the gathering and processing of data (Moreno and Andújar, 2023). Starting from 2000s, several PATs have been developed and implemented in viticulture to reduce costs of farming operations and improving grape quality (Moreno and Andújar, 2023). However, most of previous studies dealing with economic aspects of PATs in viticulture are based on hypothetical settings (Signorini and Ivey, 2023; Tona et al., 2018). Conversely, very few studies are based on empirical data and all of them focus on a single farming operation (e.g., Andújar et al., 2019). In light of the above, this study aim to evaluate the profitability of an Italian winegrowing farm adopting three different management strategies in terms of PATs for two farming operations, such as fertilization and harvesting. In this way, this study offer valuable theoretical, managerial as well as policy implications.

## MATERIALS AND METHODS

The economic analysis was carried out in an organic winegrowing farm of 150.70 ha located in Tuscany (Central Italy), in the Chianti Classico area, where an Italian protected designation of origin (PDO) wine is produced. The most representative cultivar is Sangiovese (red grape), grown in a cordon spur pruning system. The farm consists of three main vineyards that are managed differently for fertilization and harvesting in terms of mechanization and PATs level: a) conventional spreader and manual harvest (traditional management with no PA technology); b) variable-rate technology

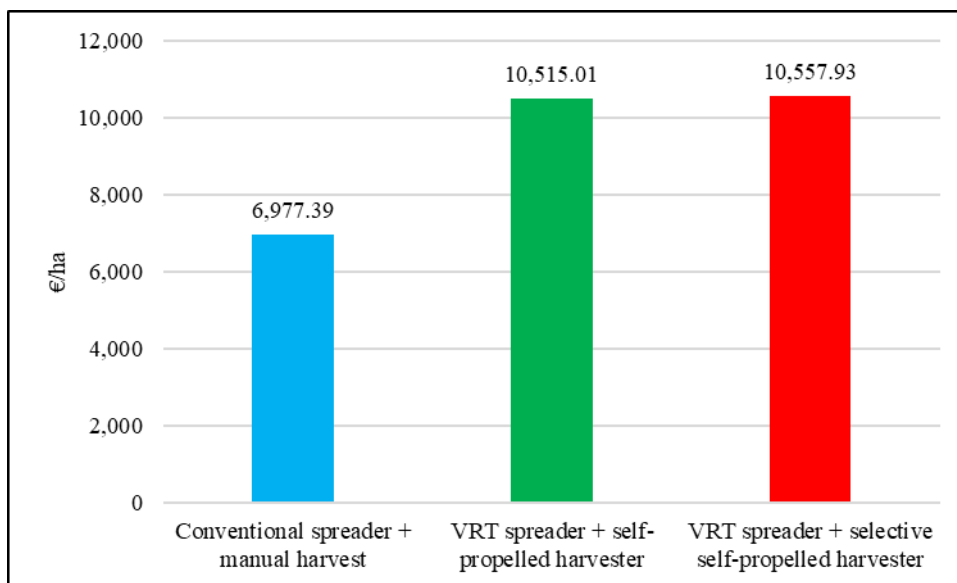
(VRT) spreader and self-propelled harvester (one PA technology); c) VRT spreader and selective self-propelled harvester (two PA technologies).

Economic assessment has been performed by means of partial budgeting, considering only changes of the two above-mentioned farming operations among the three different vineyards (Lowenberg-DeBoer et al., 2020). The extended gross margin of each vineyard has been calculated, considering revenues, direct and annual machine costs (Rajmis et al., 2022). All technical-economic data refer to the average of the last three crop years (2020/21-2022/23).

## RESULTS AND DISCUSSION

The findings highlight that the wineries' profitability increases with the level of technology adopted supporting previous empirical results (Lowenberg-DeBoer et al., 2020). More in detail, the highest value of extended gross margin is obtained in the vineyard adopting PATs both for fertilization and harvesting (10,557.93 €/ha), marking an increase of 51.3% compared to conventional management system (Fig. 1).

Fig. 1 – Extended gross margin according to PA level



This result is due to the increase of the revenues (+31.5%), as a result to the adoption of VRT spreader which improves yield by optimizing uptake of fertilizers by each plant (Andújar et al., 2019). Furthermore, the adoption of selective self-propelled harvester allows farmer to increase the grape quality and its price (Bramley et al., 2011). In addition, variable rate fertilization and selective mechanized harvest significantly reduce direct costs compared to traditional management (-66.1%), in which fertilizers and manual harvest account for 1,735.75 €/ha. Conversely, annual machine costs have shown an increase of 335.93 €/ha. This confirms that savings in direct costs have a greater impact on farm profitability than the increase in annual machine costs due to PATs adoption (Rajmis et al., 2022).



Finally, it is worth noting that vineyard in which only VRT spreader is adopted reached an extended gross margin similar to that with the highest PA level. This highlights that the high investment costs of selective harvester represent the main obstacle to its adoption as well as for other PA technologies (da Silveira et al., 2023).

## CONCLUSIONS

Findings confirm that the adoption of PATs for fertilization and harvesting in vineyard contribute to increase the farm profitability. This study enriches the current literature inasmuch, to the best of our knowledge, is the first aimed at evaluating profitability of two farming operations simultaneously according to PA level and based on empirical and real data. In this way, useful and not hypothetical managerial implications are provided, showing that the adoption of PA technologies allows farmers to obtain more profitable as well as sustainable products, thanks to the higher resource use efficiency. However, policymakers should facilitate the adoption of PA technologies by means of a targeted support aimed at reducing the high investment costs.

*Keywords: Economic assessment; Fertilization; Gross margin; Harvesting; Italy; Precision farming.*

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## INVESTIGATING THE TRAVEL BEHAVIOUR OF PEOPLE WITH DISABILITIES USING THE HEALTH BELIEF MODEL (HBM)

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### ABSTRACT

In this research, we aim to explore how individuals with disabilities approach travel using the Health Belief Model (HBM). By looking at their views on susceptibility, severity, benefits, barriers, cues to action and self-efficacy, we aim to understand how these factors shape their travel plans and actions.

Travel and tourism play a significant role in improving well-being and fostering social inclusion (Patterson and Balderas-Cejudo, 2023). However, individuals with disabilities often face challenges that hinder their ability to travel (Devile et al., 2024). While previous studies have highlighted physical and social obstacles, there is a need to research into the psychological aspects influencing the travel behaviours of individuals with disabilities. This study will utilise the HBM to explore how perceptions and beliefs of health-related factors influence the travel intentions and actions of individuals with disabilities.

HBM is commonly used to analyse health-related behaviours by focusing on individual perceptions and beliefs. HBM comprises various important elements; the belief in how likely one is to face a health issue (perceived susceptibility), the belief in the seriousness of the consequences of a health problem (perceived severity), the belief in the effectiveness of recommended actions to reduce risks or seriousness (perceived benefits), the belief in the obstacles or costs involved in taking recommended actions (perceived barriers), triggers that motivate action (cues to action) and confidence in one's ability to take action (self-efficacy).

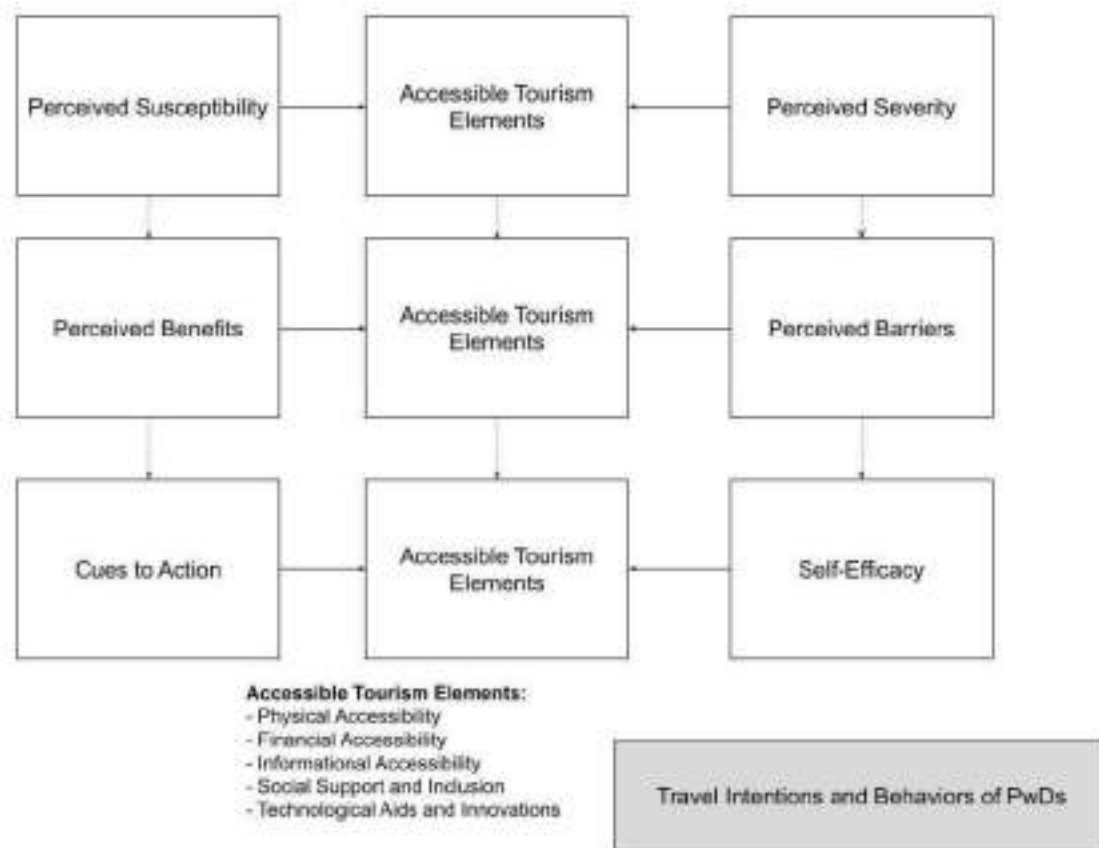
Applying the HBM to the context of travel for individuals with disabilities can be of great significance as it allows us to dissect and understand how their beliefs and perceptions influence their decisions to engage in tourism activities. Findings suggest that perceptions of accessibility and anticipated discrimination can deter individuals with disabilities from participating in tourism. In the same study,

researchers argue that these perceptions can be as impactful as the actual barriers encountered (Poria, Reichel, and Brandt, 2019). Furthermore, contemporary research by Singleton (2019) has demonstrated that the HBM effectively identifies the psychological barriers, such as perceived susceptibilities (e.g., fear of discrimination) and perceived benefits (e.g., enjoyment and relaxation), which significantly influence travel decisions among people with disabilities. These insights are critical as they guide the creation of targeted interventions aimed at altering perceptions and increasing the likelihood of travel participation.

Moreover, recent studies, such as those by Park and Chowdhury (2018), have shown that perceived barriers (both physical and social) strongly discourage individuals with disabilities from travelling. By using the HBM, we aim to better understand how specific beliefs about these barriers can be mitigated through improved accessibility, better information, and supportive services, thereby enhancing travel self-efficacy. Additionally, applying the HBM helps in designing effective communication strategies that can alter the perceived severity and susceptibility of potential travel barriers. For instance, tailored marketing that highlights the accessibility features of destinations and reassures potential travellers about available support can significantly influence positive travel behaviours.

Lastly, incorporating the HBM into studies of disabled tourism provides actionable data that can influence policy and practice. This includes developing more inclusive tourism policies, designing accessible travel infrastructure, and training staff to better accommodate travellers with disabilities. It can also provide a more practical approach that can lead to tangible improvements in how the tourism industry understands and caters to this demographic. Thus, applying the HBM to assess perceived barriers and benefits can guide the development of strategies that promote inclusivity in tourism.

The conceptual framework below integrates the constructs of the HBM mentioned above, with accessible tourism elements to provide a comprehensive understanding of the travel behaviours of people with disabilities (PwDs). It posits that perceptions of susceptibility to accessibility issues, the severity of potential travel-related challenges, benefits of travelling, and barriers to travel significantly influence PwDs' travel intentions and behaviours. Accessible tourism elements, such as physical, financial, and informational accessibility, along with social support and technological aids, interact with these perceptions to either mitigate or amplify them. Cues to action, like positive past experiences and supportive social environments, and self-efficacy, or confidence in managing travel challenges, are also crucial. By addressing these psychological factors and enhancing accessible tourism elements, the framework aims to foster positive travel intentions and behaviours among PwDs, ultimately improving their overall well-being and social inclusion.



For the purpose of this study, we will use a combination of qualitative and quantitative methods for data collection. In-depth semi-structured interviews will be conducted with a diverse group of individuals with disabilities to explore into their travel experiences and perceptions regarding the components of HBM. These interviews will be complemented by a survey aimed at assessing perceptions related to susceptibility, severity, benefits, barriers, cues to action and self-efficacy.

Participants will be recruited through disability organizations, social media channels and referrals. The interviews will take place at accessible venues or online platforms according to participants' preferences. Each interview will be recorded, transcribed, and reviewed through thematic analysis. The survey will be shared online and will include validated measures for assessing HBM concepts. The qualitative data from the interviews will be examined to pinpoint key themes linked to HBM concepts. The quantitative data from the surveys will be assessed using structural equation modelling (SEM) to explore the connections between HBM concepts and travel intentions. By combining qualitative and quantitative results, a comprehensive understanding of the psychological factors impacting travel behaviour in PwDs will be obtained.

It is anticipated that PwDs who perceive greater benefits, fewer barriers to travel and possess strong self-efficacy will demonstrate higher travel intentions and actions. Perceptions of high susceptibility to

challenges related to travel and their severity may reduce travel intentions unless countered by perceived benefits and self-efficacy. Signs like positive travel experiences and supportive social settings are expected to have a significant role in encouraging travel behaviours.

*Keywords : Accessible Tourism; Disability; Health Belief Model; travel Behaviour*

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# ASSESSING THE INTEGRATION OF ACCESSIBLE TOURISM CONTENT IN CYPRUS' HIGHER EDUCATION: THE CASE OF HOSPITALITY AND TOURISM PROGRAMS

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## ABSTRACT

This study aims to evaluate the incorporation of accessible tourism education within higher education hospitality and tourism programs in Cyprus. With a growing emphasis on inclusive tourism, it is crucial to equip future tourism professionals with the necessary skills to cater to the diverse needs of all tourists, including those with disabilities. This research will focus on understanding the current state of accessible tourism content in the curricula of Cyprus hospitality and tourism programs and propose strategies for improvement.

To foster sustainable tourism, it is necessary to enhance the accessibility standards within the hospitality and tourism sector (Theofanous, Thrassou and Uzunboylu, 2024). Accessible tourism ensures equal and dignified access to tourism for all individuals (Cassia et al., 2020; Nyanjom, Boxall and Slaven 2018). Nevertheless, currently a significant proportion of potential customers, particularly those with disabilities (PwD), elderly individuals, and individuals with functional limitations, encounter numerous obstacles when it comes to engaging in tourism activities (Deville, Eusébio, and Moura, 2024; Carneiro et al., 2022). For example, several obstacles in the tourist industry stem from a lack of skilled employees who are not equipped with proper knowledge to work in this market and serve this segment of customers (Eusébio et al., 2022; Liasidou et al., 2019). The scarcity of academic and industry discourse in this domain underscores the need for further investigation. Therefore, to convert tourism into an industry that is accessible and inclusive, it is imperative to update the curricula of higher education programs in tourism (Makuyana and Plessis, 2023; Ponting and Dillette, 2023; Freund, Iñesta and Castelló, 2022; Gillovic and McIntosh, 2020). As tourism professionals of tomorrow, students must develop the necessary abilities, skills and knowledge to effectively engage with this particular market and serve satisfactorily the specific market segment. To become a transformative leader, one must possess understanding about the characteristics, needs and desires (Kim and Jeong, 2018). The literature, although not extensive, clearly demonstrates the importance of

education in influencing the attitudes of tourist and hospitality professionals. Nevertheless, the findings of these studies indicate that accessible tourism is currently not an essential topic in the curricula of higher education hospitality and tourism programs (Eusébio et al., 2022; Freund et al., 2022). As a result, tourism students lack the essential abilities to meet the requirements of individuals with special needs (PwSN). This study aims to explore this problem in greater depth by analyzing the level of competence in accessible tourism skills among Cypriot students who are currently enrolled in hospitality and tourism programs as well as Alumni who have completed their education in the hospitality and tourism area of studies.

## **METHODOLOGY**

To achieve the aim of the study, a quantitative research approach will be adopted. A questionnaire survey will be conducted among students (3<sup>rd</sup> and 4<sup>th</sup> year of studies) and alumni enrolled in the hospitality and tourism programs. The survey will be distributed electronically to gather data on students' knowledge and perception of accessible tourism. The data collection period will extend from October 2024 to January 2025. Data analysis will involve several statistical methods. Descriptive statistics will be used to summarise the data. A hierarchical cluster analysis will be performed to identify distinct groups of students and alumni based on their knowledge and skills in accessible tourism. Additionally, Chi-square tests, ANOVA, and Kruskal-Wallis tests will be utilised to compare the identified clusters and examine differences in characteristics and activities related to accessible Tourism.

## **EXPECTED OUTCOMES**

The study anticipates identifying varying levels of awareness and knowledge of accessible tourism among students and alumni. It is expected to uncover gaps in the current hospitality and tourism curricula regarding accessible tourism content. Based on the findings, recommendations will be made to enhance the visibility and integration of accessible tourism topics in the education of future tourism professionals in Cyprus. By addressing these gaps, this research will contribute to developing a more inclusive and well-prepared workforce, ultimately enhancing the tourism experience of all individuals.

*Keywords: Accessible Tourism, people with disabilities (PwD), higher education, inclusion, curriculum development*

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## CUSTOMER ENGAGEMENT ON E-MARKETPLACE CONVERSATION: LAZADA THAILAND

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### ABSTRACT

This work aims to explore the characteristics of marketer-generated content (MGC) affecting customer engagement on an e-marketplace's social media (SM). Data included 1,054 tweets posted by Lazada Thailand in a 6-month period. Contextual, informational, and brand characteristics as well as the addition of vivid and timing characteristics were investigated. Content analysis for informational characteristics regarding the service marketing mix (7Ps) was conducted by ChatGPT-3.5. Descriptive statistics and regression analyses were used to describe data and evaluate hypotheses. Results supported the influence of contextual (mentions, tweet length), vivid (media type), informational (people and process), brand (brand mentioned), and timing (weekends and working time) in both positive and negative ways. The findings offer valuable guidelines for researchers in including the 7Ps to study e-commerce/ platform businesses and for marketers in employing proper MGC characteristics to effectively communicate to customers. This research shows the application of the popular generative AI (ChatGPT-3.5), whose performance in analyzing textual data is extensively supported by literature, to extract keywords of 7Ps instead of human coders.

*Keywords: social media marketing, Twitter, 7Ps, marketing mix, media type, content strategy, customer engagement, Lazada, e-commerce, e-marketplace, ChatGPT*

# THE ROLE OF ARTIFICIAL INTELLIGENCE AND AUTOMATION IN CONDUCTING SYSTEMATIC LITERATURE REVIEWS

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## ABSTRACT

## INTRODUCTION

The arrival of artificial intelligence (AI) and automation in scientific writing, particularly in conducting literature reviews, represents a pivotal shift in research methodologies, offering significant advancements in efficiency, accuracy, and methodological quality research (Fleischer et al., 2018; Legate and Nimon, 2023).

AI and automation have emerged as powerful tools in expediting the traditionally labor-intensive process of literature review, reducing the timeline from potentially years to mere months or even weeks, thereby significantly enhancing efficiency without compromising the rigor and depth of reviews (van Altena et al., 2019). This is achieved through sophisticated machine learning techniques and natural language processing, automating tasks such as data extraction, analysis, and synthesis, which traditionally required extensive human intervention (Keramatfar and Amirkhani, 2019). Such automation not only accelerates the review process but also minimizes human errors, thereby increasing the precision and reliability of systematic reviews (van Altena et al., 2019). Moreover, AI-driven tools facilitate the reproducibility and transparency of research, essential tenets of scientific inquiry (Tsafnat et al., 2013).

This research explores the effects of artificial intelligence and automation on the conduct of systematic literature reviews, centering on the improvements in efficiency, enhancement of methodological rigor, and the collaborative dynamics between humans and machines.

## RESEARCH DESIGN

The systematic review approach utilized is based on Vrontis and Christofis' (2019) procedure, examining research from the Scopus and Web of Science databases to investigate the role of AI and

automation in systematic literature reviews. Through a meticulous selection procedure, a total of 28 papers were ultimately chosen for analysis.

## **FINDINGS**

The analysis revealed seven key literature themes: the collaboration between humans and machines; the efficiency and time-saving benefits provided by AI; the enhancement of methodological rigor; the various analytical methods and tools employed in SLRs; the different stages of SLRs where AI is applied; and the concept of living systematic reviews. These themes underscore the significant impact of AI in improving both the efficiency and the quality of systematic literature reviews, while also stressing the indispensable need for human supervision and judgment in the process.

## **CONTRIBUTION**

This article pioneers a systematic literature review on artificial intelligence and automation in scientific writing post-launch of ChatGPT, addressing a significant gap in understanding their role in the research process. Its contribution is threefold: it synthesizes existing research on AI in scientific writing; it provides comprehensive guidance on utilizing AI effectively; and it proposes a conceptual model for future research centered on human-AI collaboration. Through this model, the article advocates for a balanced integration of AI to elevate research quality and efficiency, encapsulating the critical synergy between technological advancement and human oversight in scientific discourse.

## **CONCLUSIONS**

The merit of the seven themes identified in the analysis of this research show that utilization of AI in scientific writing operates on two levels: enhancing real-time collaboration between humans and machines for up-to-date research publications and improving the methodological quality of reviews through advanced AI tools and methodologies. The core of scientific exploration with AI lies in the synergy between human cognitive abilities and machine efficiency, where human oversight remains crucial to direct and interpret AI-generated outputs (Thomas et al., 2017). This collaboration is pivotal in maintaining the quality of scientific texts, as AI alone cannot yet synthesize or fully comprehend scientific narratives. A conceptual model suggests that AI's primary value in scientific writing lies in bolstering methodological quality, moderated by effective human-machine collaboration. As AI tools rapidly become outdated, there's a pressing need for continuous evaluation of their relevance and effectiveness in different stages of the SLR process (Elliott et al., 2017). Living systematic reviews

emerge as essential in this context, offering a framework for keeping scientific literature current and reliable through the integration of AI technologies.

## LIMITATIONS

This article's limitations stem from its focus on AI-based software, omitting simpler technologies and machine learning applications, and only identifying seven thematic areas in systematic literature reviews (SLRs), which overlooks broader issues like ethics and policy. Additionally, the nascent field of AI in scientific writing presents challenges in fully understanding human-machine collaboration, necessitating future research for clearer differentiation between AI and automation in SLRs. The current scarcity of literature specifically addressing AI's role in SLRs highlights the need for ongoing exploration as the field evolves.

## RECOMMENDATIONS FOR FURTHER RESEARCH

Future research should explore the impact of advanced tools like AI on the scientific writing process, examining whether they enhance or limit cognitive abilities and shape new competencies. Developing a theory of human-machine collaboration in scientific writing is crucial to understand the dynamics and outcomes of such interactions. Further investigation is needed to enhance the effectiveness, efficiency, and quality of AI-based and automated literature reviews, addressing the roles of analytical methods, tools, and the concept of living systematic reviews for continuous updates.

*Keywords: systematic literature review, science writing, artificial intelligence, science automation, ChatGPT*

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## HOW JAPANESE SHOPPING STREETS CAN BE REVITALIZED: AN EXPLORATION FROM A DYNAMIC CAPABILITIES PERSPECTIVE

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### ABSTRACT

### INTRODUCTION

This study investigates and identifies the necessary dynamic capabilities to transform Japanese shopping streets towards competitive retail formats. Osu shotengai in Nagoya, Aichi prefecture, was analyzed using a case study approach. Data were collected from various sources, including reports from the Small and Medium Enterprise Agency and fieldwork involving observations and interviews with shop owners. This study provides insights for practitioners and researchers, offering managerial implications and empirical extensions for the dynamic capabilities framework.

Japanese shopping streets, known as “shotengai,” are vibrant thoroughfares lined with various shops, restaurants, and services. They offer diverse products and services through a mix of local and chain stores. Primarily comprised of small and medium enterprises (SMEs), including family-owned and micro businesses, the shotengai have been integral to Japanese communities and serve as vital hubs for daily shopping, local interaction, and communication. However, factors such as population decline, aging demographics, changing consumers' lifestyles, and the emergence of modern retail formats have led to their significant decline. According to a survey commissioned by the Small and Medium Enterprise Agency in 2021, the average vacancy rate per shopping street rose from 8.98% in the fiscal year 2006 to 13.59% in the fiscal year 2021, with over 43.3% of shopping streets experiencing a vacancy rate of 10% or more. This is evident in the increased number of shuttered shopping streets (shutter dori) in Japan. Despite these challenges, SMEs and microbusinesses in shotengai remain crucial to the local economy, society, and employment.

This study aims to investigate methods to revitalize and enhance the competitiveness of these Japanese shopping streets within the modern business landscape of Japan. Therefore, we set up the following research questions:

RQ1: What are the necessary capabilities to revitalize Japanese shopping streets? Do the dynamic capabilities contribute to the survival and revitalization of Japanese shopping streets amidst strong competition from modern retail formats?

RQ2: How do Japanese shopping streets cultivate these dynamic capabilities?

## **THEORETICAL FRAMEWORK**

The dynamic capabilities framework was developed by Teece (Teece, Pisano, and Shuen, 1997; Teece, 2014a, Teece, 2018; Teece, 2020). Dynamic capabilities is defined as “the firm’s ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments” (Teece et al., 1997, p.516). The framework comprises three elements: sensing, seizing, and transforming. “Sensing” involves analyzing diverse data to identify opportunities and risks, while “seizing” determines “how quickly the organization can respond to significant opportunities and threats.” “Transforming” capabilities, “particularly asset orchestration, are responsible for keeping elements of the organizational system internally coherent, aligned with the strategy, and competitive in the external environment” (Teece, 2020, p.10). This study centers on “transforming capabilities.” We determine various activities associated with “transforming capabilities,” categorizing them into subcategories and identifying corresponding activities for each subcategory.

## **RESEARCH METHODOLOGY**

We utilized Yin's (2018) case study method to examine Osu shotengai, which was chosen for its remarkable transformation success. Despite experiencing a decline in the 1960s, 1970s, and 1990s, Osu shotengai underwent a significant transformation from the 2000s onwards, emerging as a vibrant shopping destination. With around 1,200 shops offering diverse food and fashion products and services, it attracts approximately 20,000 visitors on weekdays and twice as many on weekends and holidays, appealing to both locals and tourists. Fieldwork was conducted twice in January and March 2024; we observed Osu shotengai during the New Year holidays and normal days and had brief discussions with shop owners of various businesses.

## **RESULTS AND DISCUSSION**

We gathered all observations, notes, and analyses obtained during the fieldwork and then categorized the data based on keywords. This process yielded three subcategories of “transforming capabilities”: the capability to innovate new business concepts, modify the value-creation process, and design an open and flexible organization.

First, the capability to innovate new business concepts involves identifying emerging market trends, consumer lifestyles, and technological advancements and translating these insights into innovative business concepts. In Osu, this included the transition from a traditional business format to a model that attracted startups with the concept of “Osu Dream,” which defined Osu as a place where

individuals could pursue their aspirations. This initiative allowed small businesses to gain support to grow into larger firms and evolve.

Second, the capability to transform the value-creation process involves restructuring how value is generated within an organization and redesigning internal processes to enhance customer satisfaction. The Osu shotengai achieved this by enhancing store services and offering Japanese cultural experiences through over 100 events annually, including many festivals. This approach embodies a value co-creation process rooted in Japan's high-context creative service model, integrating elements such as Japanese otaku culture, anime, maid cafes, and food trends with the Japanese "Omotenashi" mindset.

Finally, the capability to design an open organization involves integrating external resources to foster innovation. Shotengai is originally a business primarily frequented by men. However, Osu has shown a rapid increase in female and foreign business owners and union members. For instance, the number of young owners in their late 30s–40s in Osu, including many foreigners, has increased. Notably, the current chairperson of the Banshoji-dori shopping streets promotion association is a Chinese woman.

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*Keywords: Dynamic capabilities, Transforming capabilities, Retail formats, Japanese shopping streets, Small and medium enterprise, Microbusinesses*

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## HOW TO ATTRACT AND RETAIN NURSES: WORK-FAMILY AND JOB CONTROL ISSUES

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### ABSTRACT

The increased difficulties in attracting and retaining young nurses have been the object of attention in many countries and the labour shortage related to the demographic evolution and also to retirement of many nurses increases the challenges. With population aging, there is an increase in demand for health services, and the labor shortage is thus more challenging.

Also, the gap between public income and health costs is increasing, calling for solutions. This is why Lean Management is introduced in some organizations (Bouville et Trempe, 2015).

In our presentation, we will address these challenges and try to find the elements on which the Canadian (Quebec) Health department and hospitals could act in order to increase the number of nurses, and more specifically to attract and retain more with better HRM responding to nurses' needs. For this, two main issues will be covered in our presentation: firstly work-life issues, and second, work organization, Lean) management and job control.

Work-family issues have been debated in many industrialized nations over recent years. (Poelmans, Greenhaus, & Maestro, 2013; Allen, 2012), and this is the case for the nursing sector. It is possibly more important for the health sector than in many others as it is a female sector where work-family interface is an essential issue. While the Canadian province of Québec is recognized for its family policy and good public support to work-life balance, (Tremblay, 2014), the challenges are still important at the organizational level. Indeed, this challenge of work-life interface has increased with demographic decline in many countries, but also in relation with the increased participation of women and increased number of dual-earner couples in the workforce, which also means that both partners are increasingly faced with this work-family issue. In this context, workers look for the support of their employers and managers (Fiksenbaum, 2014, Goh et al., 2015), but unfortunately do not always find it. In the health sector as in others, especially those where workers are dealing with humans and not objects, work-life challenges are seen as having a major impact on employee well-being (Eby, Maher, & Butts, 2010). Work-family measures thus have an impact on work engagement and professional stress, which can in turn have an impact on how nurses deal with their patients (Braunstein-Bercovitz, 2013). Organizational policies and measures to support workers with work-family reconciliation are thus crucial, but research has shown that it is not always sufficient, especially in sectors such as

nursing or other organizations functioning 24-7, as it is not always possible to benefit from flexible schedules or telework in such sectors. It is thus often a challenge to eliminate or even reduce the negative effects of work-family conflict on work attitudes and organizational performance and results (Fiksenbaum, 2014). Some authors have also observed that the application of work-family measures depends on top management (Hammer et al., 2009) and over recent years, in Québec (Canada), nurses have often had to do overtime, and thus, work-family balance has been even more difficult to achieve. Organizational culture can have an impact on work attitudes and results, and compulsory overtime and non-supportive organizational climate have surely had a negative impact on this culture, as well as work attitudes and results over recent years (Kossek, Pichler, Bodner, & Hammer, 2011; Allen, 2001).

We will present results from a research with a little over 800 nurses, in Québec. These results highlight the importance of compulsory overtime, long working hours, and difficult work-family balance in the departure of many nurses within 5 years. However, contrarily to many media articles, the issue of Lean Management and Autonomy does not seem to be a major issue for attraction and retention of nurses, as our data show.

Some recommendations can be drawn from our results. First, in order to attract and retain nurses, the issue of work-family interference should be addressed to permit nurses and other health workers to have a personal and family life. Second, health organizations should redesign t work reorganization, and review the application of Lean Management, especially as concerns working time issues. It may be interesting to go back to the origins of the concept, especially the Japanese innovation management model, and put the nurses at the center of the work innovation process. Giving nurses a voice in the process of work reorganization could help maintain performance as well as the quality of patient care. There are limits to the analysis presented here. First, we are confronted with the limits of quantitative data, for example as concerns differences of perception on the impact of work on work-family interface. In future research, we are already starting to plan interviews to try to clarify this and to gain a better understanding of other related issues. The qualitative data will contribute to complement the quantitative data collected and which will be presented, but the present data on the impacts of work on work-life interface and on lack of time are clearly very interesting and offer avenues for recommendations to hospitals and health authorities as concerns elements of dissatisfaction which could be corrected for better levels of attraction and retention of nurses.

*Keywords : Nursing, Work-life, Work-family, Job Control, Autonomy, Attraction, Retention, HRM*

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## SURFING THE SERVICE GAP: A STUDY ON MANAGERIAL AND GUEST PERSPECTIVES IN PORTUGUESE SURF HOSTELS

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### ABSTRACT

In the last decade, Portuguese surf tourism has been on the rise, experiencing a steady increase of surf tourists and with them contributions to the local economic development. Surf enthusiasts are always searching for the ideal wave and Portugal's rising popularity after successful marketing campaigns such as the Big Wave Surfing in Nazaré is helping to establish the country as one of Europe's leading surfing destinations (Bradshaw, 2021). An increasing number of surf tourists also brings an increasing number of offers of accommodation providers, and especially hostels and surf camps along Portugal's coastline emerged as visitors' favourites. Therefore, it is important to deliver high service quality within these lodgings, not only to attract new customers and offer a reasonable price-for-value experience but also to ensure the continuous purchase of recurring guests, helping to build a favourable reputation for Portuguese surf tourism locally and nationally. However, the managerial approach to delivering high service quality and the customer's perceptions of high service quality do not always match (Brochado and Rita, 2018).

This research aims to investigate and explain the gap between managers' and guests' perceptions of high-quality service in surf hostels in Portugal while addressing the shortage of research on surf tourism (Veríssimo and Costa, 2019). Additionally, this study is meant to be used as managerial implications in the future to bridge the gap between hostel management and guests, ensuring a high standard of service quality, will lead to higher customer loyalty, increasing business profits, and a more attractive view of Portugal as a tourist destination.

Surf hostels are a preferred universal choice due to their budget-oriented yet 'cool' market positioning (Veríssimo and Costa, 2019; Wilson *et al.*, 2021). Recently, there has been a shift in the image of hostels, with a focus on diversifying hostel services to increase their strength in the hospitality industry and leave behind the low-quality stigma (Kuzmanović and Vukić, 2021; Veríssimo and Costa, 2019). At the same time, hostel managers are facing the challenge of continuously providing high-quality service to better position their business, reach customer satisfaction, deliver a positive service experience, and build customer loyalty (Veríssimo and Costa, 2019).

Factors such as direct customer contact, willingness to interact, clean facilities, and a comfortable feeling of safety and warmth can all impact the guest's impression, as noted by Brochado and Rita (2018). Surf tourists are rarely looking for just a place to sleep; instead, they seek arrangements that reflect the surfing lifestyle: close to nature, sustainable, in contact with like-minded people, and willing to share available resources.

While there is a lot of research on service quality in hotels, there is a lack of research on service quality in hostels, particularly in the context of surf hostels, despite their growing popularity (Veríssimo and Costa, 2019).

A mixed-method analysis was employed to pursue the main objective. The managers' perspective was explored through a qualitative methodology in the form of structured and self-reported interviews (n=10), providing insights into their strategies and operational priorities for delivering service quality. The content analysis and coded process were made with the assistance of the software MAXQDA. The codes were then organized into categories, allowing for a systematic analysis of the data, culminating in the identification of five key themes, reflective of the managers' viewpoints on crucial factors for achieving high service quality.

To analyse the significance of service quality from the guests' view, a quantitative research approach was adopted. This approach involved employing a survey structured based on the SERVPERF model (n=199), which allowed for an analysis of guest perceptions and experiences regarding service quality. The statistical software SPSS was used to generate descriptive and inferential statistics.

The presented results provide a comprehensive understanding of the relationship between manager and guest perceptions of service quality and the existing gap between them. The qualitative research results suggest that a guest-centered approach, along with staff efficiency and sustainability regulations, is the most important factor for surf hostel managers in delivering high service quality, while facilities and amenities are considered the least important.

The quantitative research results indicate that tangibles, such as appealing and well-equipped facilities with a welcoming environment, are of most importance for surf hostel guests in perceiving high service quality. This gap can be diminished by encouraging managers to maintain a guest-centered approach while ensuring the provision of presentable, updated, and clean facilities that create a welcoming atmosphere for hostel guests.

The findings of this study contribute to the existing literature on surf tourism in various ways. The research not only provides insights into surf tourism in general, which remains an under-researched topic (Veríssimo and Costa, 2019), but it also offers deeper insights into Portuguese surf tourism, feeling the gap.

Moreover, it also offers crucial insights with significant managerial implications, such as placing guests' needs and preferences at the forefront of service delivery strategies (Kuzmanović and Vukić, 2021). Simultaneously, a concerted effort should be directed toward maintaining and enhancing the provision of well-maintained, updated, and aesthetically pleasing facilities. The physical aspects of the hostel play an indispensable role in shaping guests' perceptions of service quality (Nok *et al.*, 2017; Veríssimo and Costa, 2019). By focusing on these aspects, surf hostel managers can foster a welcoming and enjoyable environment that resonates with guests and aligns with their expectations (Brochado and Rita, 2018).

*Keywords: Customer Expectations, SERVPERF, Service Quality, Surf Tourism*

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# **BRILLIANT LEADERSHIP: FEMALE LEADERS AS CATALYSTS FOR TRANSFORMATIVE CHANGE**

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## **ABSTRACT**

### **BACKGROUND**

Female leadership has evolved in attaining leadership positions. Despite progress, female leaders still need to be represented across various sectors (Porter, 2024). This study explores the concept of brilliant female leadership, characterized by authenticity, team engagement, inspirational influence, innovation, and commitment to meaningful contributions. By investigating the strategies employed by brilliant female leaders in leveraging Continuous Improvement, Innovation, Communication, and Human Intelligence, this research aims to bridge the gap in understanding the transformative impact of female leadership on organizational success and societal progress. The potential of this study's significance resides in its capacity to enhance the current knowledge base and inspire recognition of female leaders' crucial role in shaping a sustainable future.

### **PURPOSE**

This study explores the transformative impact of brilliant leadership, a framework defined by authenticity, team engagement, inspirational influence, innovation, and unwavering commitment to meaningful contributions across various areas, including one's community. Explicitly focusing on female leaders, this research delves into their exceptional ability to wield expertise in Continuous Improvement, Innovation, Communication, and Human Intelligence. Brilliant leadership is characterized by authenticity, as female leaders authentically express their values, beliefs, and visions, fostering a culture of openness and trust. Their engagement with people and teams transcends traditional hierarchical structures, creating an inclusive environment where diverse perspectives thrive. These leaders inspire others through their passion, resilience, and ability to envision a collective future, acting as catalysts for positive change.

### **METHODOLOGY**

The central qualitative research question (RQ) was:

How do brilliant female leaders leverage their expertise to drive transformative impact within their organizations and communities?

This qualitative method case study design investigates these leaders' strategies in fostering innovation, thereby contributing to organizational growth and adaptability within business, finance, media/entertainment, politics/policy, philanthropy, and technology.

## **FINDINGS**

This study explores the transformative impact of brilliant leadership, a framework defined by authenticity, team engagement, inspirational influence, innovation facilitation, and unwavering commitment to meaningful contributions across various areas. Explicitly focusing on female leaders, this research delves into their exceptional ability to wield expertise. Brilliant leadership is characterized by authenticity, as female leaders authentically express their values, beliefs, and visions, fostering a culture of openness and trust. Their engagement with people and teams transcends traditional hierarchical structures, creating an inclusive environment where diverse perspectives thrive, and individuals truly feel like they belong. These leaders inspire others through their passion, resilience, and ability to envision a collective future, acting as catalysts for positive change.

## **CONTRIBUTIONS TO THEORY**

This research sheds light on the unique attributes of brilliant female leaders and underscores their relevance in contemporary leadership paradigms. By examining their impact on organizational success and societal contributions, this study seeks to inspire a broader understanding and recognition of the transformative role played by female leaders in shaping a sustainable and equitable future.

With innovation, brilliant female leaders play a pivotal role as facilitators. Their skills in co-innovation enable teams to harness collective creativity, pushing the boundaries of what is possible. Commitment to making significant contributions is a cornerstone of brilliant leadership. Female leaders with a strong sense of social responsibility leverage their expertise to positively impact humanity, the environment, and ethical standards within their spheres of influence. The research explores how these leaders integrate their expertise with broader societal and environmental objectives, fostering a deep sense of commitment and purpose in their work (Novotney, 2023).

Continuous Improvement, Innovation, Communication, and Human Intelligence form the bedrock of brilliant female leadership. The study explores how these leaders leverage continuous improvement methodologies to drive organizational excellence, employ effective communication strategies to disseminate innovative ideas and harness human intelligence to build cohesive, high-performing teams.



## PRACTICAL IMPLICATIONS

The study of female leadership provides valuable insights into the factors that positively impact humanity, the environment, and ethical standards within their spheres of influence. The study highlights the importance of co-innovation in driving creativity and exceeding the realm of what is possible. This study explores the brilliant leadership of female leaders as a catalyst for transformation and change. The study provides practical insights for female leaders on enhancing their knowledge, strengthening their skills, and driving organizational change. The study also emphasizes the need for female leaders to innovate while impacting their careers, organization, and community.

## LIMITATIONS

The study's limitations stem from its dependence on secondary data sources, which could harbor biases, subjective interpretations, and possible data gaps or inaccuracies. Moreover, its reliance on existing data might constrain the depth of analysis and overlook nuanced aspects. Future research should employ primary data collection methods and conduct comprehensive analyses to mitigate these limitations and attain a more comprehensive understanding of the subject matter.

## FUTURE RESEARCH

Scholars could identify the limitations of existing research on female leadership and its impact on various sectors. This would highlight the need for a qualitative case study approach to investigate the strategies employed by brilliant female leaders. Emphasizing the importance of exploring the transformative role of female leaders in driving organizational success and societal progress can offer deeper insights into the dynamics of female leadership across diverse sectors.

*Keywords: Brilliant Leadership, Continuous Improvement, Innovation Communication*

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- Keywords: Brilliant Leadership, Continuous Improvement, Innovation Communication

## EMOTIONAL INTELLIGENCE AND STRATEGIC DECISION-MAKING: A BIBLIOMETRIC STUDY

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### ABSTRACT

This research aims to study the linkage between emotional intelligence and strategic decision-making through a bibliometric analysis.

This paper uses R. Bibliometrix to present a bibliometric overview to delimit this topic and offer a comprehensive literature mapping. Based on 49 papers (42 articles and 7 reviews), we can trace the theme including the most important and relevant papers, publication outlets, authors, keywords, and trends.

Findings show that (1) 59.18% of all publications (articles and reviews) and 31.75% of all citations were published in the last decade (2014-2023), (2) the top-5 journals are: Baltic Journal of Management, Brain and Cognition, Administrative Sciences, Adult Learning and Aging, Neuropsychology, and Cognition, (3) the most relevant authors (H-index) are Bacigalupo, A.C. and Hess, J.D., (4) the content-based on the main keywords are: Emotional Intelligence; Decision Making; Emotional Regulation; Higher Education; Leadership; Cognitive Reappraisal; Positive Emotions; Qualitative Research; Academic Leaders; and Accounting Education, and that (5) the trend based on conceptual and thematic structure are: (2010) Emotion Regulation; (2012) Decision Making; (2013) Leadership; (2015) Emotional Intelligence; (2022) Higher Education.

This study contributes to the existing literature by synthesising and organising relevant research, shedding light on the current state and future directions of inquiry into the relationship between emotional intelligence and strategic decision-making.

*Keywords: emotional intelligence, strategic decision-making, bibliometric analysis, science mapping, performance analysis.*

## DESIGNING HRM PROCESSES FOR COMMON GOOD: CASES FROM INDIA

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### ABSTRACT

### INTRODUCTION

Over the last decade, there has been a notable shift in businesses towards adopting a Sustainable Human Resource Management (HRM) model that prioritizes diverse stakeholder perspectives over the traditional focus on maximizing shareholder value. The advancement in Sustainable HRM, is also referred to as Common Good HRM. It goes beyond the traditional HRM framework, by placing significant emphasis on the well-being of employees, society, and the environment collectively (Aust, et al., 2020). However, there is limited literature exploring the potential outcomes of adopting Common Good HRM systems by organisations.

In India, a section of businesses try to blend HR practices with the philosophy of *Vasudhaiva Kutumbakam*, (Sanskrit phrase translated as "vasudha" meaning the earth, "eva" as an emphaziser, and "kutumbakam" translating to "family") which promotes the idea of "the world is one family." They emphasize on employee welfare and making societal contributions, while not compromising on organisational performance. While this ancient philosophy aligns with principles of Common Good HRM, it faces criticism for fostering a "paternalistic" outlook among employers/owners. Critics argue that such businesses lack formal HRM approach, leading to expectations about employee submissiveness and loyalty, which potentially limits individual and collective rights. However, there are firms that have implemented a blended HRM framework, combining requirements of care and well-being, and performance. The objective of this paper is to discuss the impact of blended HRM practices on both organizational success and societal well-being through case study analysis of two Indian companies representing diverse industries.

### METHODOLOGY

We utilized a case study approach to conduct exploratory research on two companies. Company A, a major manufacturing firm serving a global market, boasts a workforce of over 6000 employees. In contrast, Company B offers advisory services exclusively to the domestic financial sector and has approximately 40 employees. Case studies are crucial in generating exemplars that strengthen knowledge specific to context within the discipline being examined (Flyvbjerg, 2006). Company A

prioritizes integrity, respect, and social consciousness while emphasizing continuous training, family benefits, and community involvement. Company B, distinguishes itself through a unique HRM approach through a nurturing environment, opportunities for employee leadership and compassionate policies.

## MAIN FINDINGS AND IMPLICATIONS

The study's results are categorized into four main areas. Category 1 focuses on Intent, Organizational Philosophy and Culture emphasizing that integrating values into HRM starts with the founder or top management's intention to view business as a means to create positive societal impact. Beginning at a grassroots level, common good intent fosters mutual respect, continuous communication of common good principles, implementing open-door policies, and recognizing employees and their families as essential stakeholders. Category 2, involves implementing blended HRM practices. This includes meticulous hiring processes which focuses on the employee's background, eagerness to learn and culture fit. The company maintains a culture of tolerance for mistakes, even when the cost of errors is substantial. Respectful confrontation and effective conflict management strategies are in place. Prioritizing employee health and welfare, the company provides social security, nutritious food options, and extended care benefits for its employees. Employee engagement initiatives involve incorporating employees' families in activities such as vacations, pilgrimage trips, and celebrating festivals. Founders play a role akin to surrogate parents within the organization, providing moral guidance and overseeing the delicate balance between business objectives and ethical values. Despite having clearly defined business goals, there is a conscious effort to maintain moral control over the operations. The company maintains ongoing relationships with former employees, even though retention rates are high. Former employees are invited to company events and are also provided assistance even after they have left the organization. This practice highlights a commitment to nurturing long-term connections and fostering a sense of belonging beyond an individual's tenure with the company. *Category 3*, seeks organisations to give back to society. Our findings highlight a content and fulfilled workforce that contributes to a positive work environment and plays a crucial role in achieving broader societal impact. By investing in high-quality work environments such as green buildings (Company A), and optimum space usage (B) not only promote sustainability but also demonstrate a commitment to environmental responsibility. Additionally, supporting the local community and neighbours, further strengthens the organization's social impact. Category 4, Organisational performance and success highlights that both Company A and Company B have achieved high-quality output and customer satisfaction and have also positioned themselves as entities that prioritize societal values. This positioning has attracted renowned personalities to offer

support, advice, and association on a pro bono basis. Furthermore, the establishment of direct employee voice channels has led to a Union substitution approach in Company A, while the other company's smaller size limits such initiatives. Both organizations capitalize on opportunities to groom the next generation of leaders. In Company A, elderly family members instilled with strong values play a pivotal role in training the upcoming generation to uphold these values and continue the legacy with humility. On the other hand, in Company B, the founder personally invests in training employees to assume leadership roles and carry forward the organization's values with dedication and integrity.

## CONCLUSION

The positive results observed in the impact of blended HRM practices on both organizational success and societal well-being, as evidenced by the case study analysis of two Indian companies across diverse industries, highlight the significance of integrating common good values into HR strategies. This study reinforces the notion that integration of common good values into HRM practices can lead to beneficial outcomes for both organizations and society welfare.

*Keywords: Sustainable Human Resource Management, Common Good HRM, HR Process, Stakeholders, India,*

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## DIGITALISATION COST OF MANAGERIAL PROCESSES IN THE GREEK HOSPITALITY INDUSTRY: THE CASE OF HOTEL UNITS IN CRETE ISLAND

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### ABSTRACT

#### PURPOSE

The main purpose of this research is to measure the managerial digitalisation cost of the Greek hospitality sector, with an emphasis on the geographical region of Crete. Although digitalisation of hotel units has been a topic of discussion in the new era after the Covid-19 pandemic, the associated cost is still an unexplored field. This study aims at dealing with the above aspect, focusing on hotels based on the popular tourist destination of Crete island, analyzing managerial digitalisation cost and its relationship with independent variables like corporate form and hotel size. Furthermore, it makes comparisons with the hospitality industry of less popular touristic destinations (i.e. in Northern Greece), in order to detect similarities and differences in corporate strategy. The evaluation of digitization costs will lay the initial academic basis for further research on the subject, while providing valuable information to hospitality businesses for decision making. For instance, hotel units will be able to know factors that can positively influence the proportional cost of digitization, such as the number of employees or seasonal operation. On the other hand, software companies will be able to access the necessary information for the segmentation of hotel market. Given the fact that the term 'managerial digitalization' is quite a vague concept, we refer to specific tools that support effective management such as cloud and electronic meeting applications (Antonio and Rita, 2021), Revenue Management software (Demirciftci *et al.*, 2020) as well as digital marketing (website, social media), dynamic pricing and C.R.M. software (Pateli *et al.*, 2022).

#### METHODOLOGY

The survey is conducted with the use of a structured questionnaire. The research population includes 1,504 hotels on the Greek island of Crete, listed members of The Hellenic Chamber of Hotels register, which had some type of online presence (e-mail, website, social media account). On-line questionnaire was chosen based on quick response, low cost and automatic creation of a digital database (Clarck *et al.*, 2021). There are 5 variables considered, in order to examine the relationships of certain hypotheses. More specifically, through statistical analysis, it is examined whether the 4 independent variables affect the dependent variable (David and Sutton, 2011). The managerial digitalisation cost of hotel

units is defined as the dependent variable (Y), while demographic factors of hotel units are used as independent variables (X) (Table 1):

Table 1. Independent variables

|                             |                             |    |
|-----------------------------|-----------------------------|----|
| Corporate form              | Lakhani, 2020               | X1 |
| Number of employees in 2022 | Frančeškin and Bojnec, 2022 | X2 |
| Operating period            | Vlami, 2021                 | X3 |
| Accommodation type          | Chiappa et al., 2021        | X4 |

In relation to the investment in managerial digitalisation, a numerical index is preferred, instead of specific amounts in monetary units. The above choice is related to the fact that the amount of investment is quite possible to be affected by the size and the financial status of each hotel. Consequently, BUD.BY.REV. (Budget as a percentage of total revenue) index, used by Mahmood and Mann (1993), is adopted as dependent variable (Y) of the research. Starkov (2022) point out that the average of the above index for hospitality sector is around 2.5%. In a related survey of the Greek hotel industry in Macedonia and Thrace, Chatzipetrou and Varvaropoulos (2024) concluded that only the 16.9% of the sample invested more than 2.5%, while about half recorded rates between 1.25% and 2.5%.

## FINDINGS

Our research concludes that the vast majority of hospitality corporations in Crete invest less than 2.5% of their total incomes in the digitalisation of their managerial operations, a percentage which was also mentioned by Starkov (2022) as an average level. The above confirm the findings of a previous research concerning another Greek region (Chatzipetrou and Varvaropoulos, 2024). On the other hand, no statistically significant correlations between managerial investment (Y) and the independent variables of corporate form ( $X_1$ ), number of employees ( $X_2$ ), operating period ( $X_3$ ) and accommodation type ( $X_4$ ) are observed, rejecting the findings of previous research and the hypotheses set in the present paper.

*Keywords: Digitalisation costs, hotel management, e-processes, Greek hospitality industry.*

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## UNVEILING GREEK TOURISM TRENDS: A COMPARATIVE STUDY OF TOPIC MODELING TECHNIQUES

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### ABSTRACT

### INTRODUCTION

Natural Language Processing advances have enabled us to efficiently analyze large corpora of unstructured text, efficiently extracting insightful information about human behaviors. Topic modeling has emerged as a powerful tool in this process, proving effective in capturing relationships among documents. It receives significant application in various domains, including political (Greene and Cross, 2017), biological (Liu *et al.*, 2016), and medical science (Zhang *et al.*, 2017), among others, employing popular approaches like Latent Dirichlet Allocation (LDA) and Non-negative Matrix Factorization (NMF). This study undertakes a comparative analysis of these approaches in Greek text, a language insufficiently represented on digital resources, focusing on newspaper articles related to tourism—a sector critical to Greece’s economy. By adapting these models to the linguistic complexities and cultural nuances of Greek, this work demonstrates their potential effectiveness in identifying coherent and relevant topics within the tourism corpus. Initial results indicate that NMF outperforms LDA in terms of topic coherence and interpretability. According to the best of our knowledge, this is the first study to apply and compare topic modeling approaches in a new and demanding language context; by unfolding new dimensions in a popular sector that drives Greece’s economy.

### LITERATURE REVIEW

Topic modeling has transformed Natural Language Processing (NLP) by allowing the efficient identification of themes within large text volumes using unsupervised Machine Learning. This method extends beyond literary analysis to multiple fields, such as medicine, where it provides insights by examining clinical reports (Speier *et al.*, 2016), and social sciences, aiding scholars in understanding text themes (Mohr and Bogdanov, 2013). Blei’s review emphasizes topic modeling’s growth, methodologies, and its critical role in textual analysis (Blei, 2012).

In topic modeling, Latent Dirichlet Allocation (LDA) (Blei *et al.*, 2003) and Non-Negative Matrix Factorization (NMF) (Kuang *et al.*, 2015) are prominent. LDA uses a probabilistic approach, viewing documents as mixtures of topics, each defined by word distributions. Conversely, NMF utilizes a

linear algebraic method and TF-IDF to extract meaningful topics. Both methods yield valuable insights, with LDA focusing on thematic consistency and NMF on speed and scalability, making them valuable for different analytical needs and research goals. Therefore, the choice between the two models depends on the textual dataset available, regarding its quantity but also its content, as each model performs better in different situations (Mifrah, 2020). The application of topic modeling to lesser-spoken languages such as Greek, presents several difficulties due to their linguistic characteristics, however, there have been some instances where these techniques have been successfully adapted (Wishart, 2017, Gkoumas *et al.*, 2018), showcasing their adaptability to different linguistic contexts.

## METHODOLOGY

The dataset for this study consists of 2,281 Greek articles about tourism from 1945 to 1990, digitized using Optical Character Recognition (OCR) via FineReader PDF by ABBYY, which supports Greek and includes features like image improvement, noise reduction and resolution enhancement. Following the conversion of printed documents into a digital format, several preprocessing steps were undertaken on the corpus. These included converting characters to lowercase for consistency, removing symbols, numbers, and all punctuation except periods, and retaining only Greek alphabet letters. To reduce dataset noise and prevent the obscuring of meaningful data patterns, common Greek words lacking significant contextual meaning were excluded using the spaCy Python library. Additionally, domain-specific stop words irrelevant to topic identification were manually removed to refine the preprocessing further. Lemmatization was also applied to normalize words to their base form, improving topic interpretability and addressing the document-term matrix's sparsity issue common in text analysis.

For LDA analysis, the preprocessed corpus was converted into a Bag of Words (BoW) format, representing each document as a vector of word frequencies. Various models were then trained with different parameters and topic numbers to optimize the coherence score, a metric assessing the semantic similarity of top-scoring words within each topic. For NMF analysis, the TfidfVectorizer from Scikit-Learn was used to transform the texts into a TF-IDF (Term Frequency-Inverse Document Frequency) matrix, turning the textual data into a numerical format that highlights key words while diminishing the role of common but less informative words. A similar approach to LDA's was then followed to identify the optimal number of topics.

## RESULTS

The comparison of the results of the two models will be employed in a qualitative manner as it provides a better estimate of the differences, the advantages, and shortcomings of each approach. The reason behind this is that these algorithms aim at optimizing different objective functions and their performance can be heavily influenced by adjusting their parameters, thus making a quantitative assessment challenging. Figure 1 provides an overview of the terms that significantly influenced two of the most prominent topics of both models. A total of five topics were decided for LDA based on the maximum coherence score of 0.35, whereas the optimal number of topics for NMF was six, accompanied by a score of 0.41.

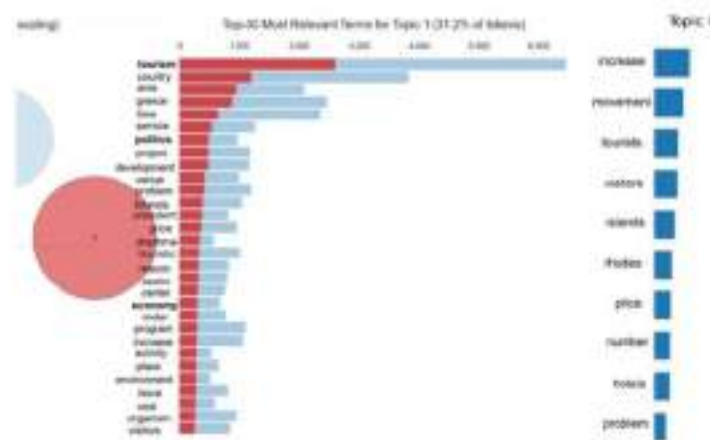


Figure 1: Most Prominent Topic: LDA (left), NMF (right)

## CONCLUSIONS, LIMITATIONS, AND FUTURE RESEARCH

Despite the existence of extensive comparisons in the literature between Latent Dirichlet Allocation (LDA) and Non-negative Matrix Factorization (NMF) for topic modeling in English text, limited research has been done to other less widely spoken languages, such as Greek, which is the primary focus of this study. We conducted an in depth assessment of these two methods, while highlighting the possible challenges faced when dealing with a language with fewer and more limited text processing tools. Future research shall expand to the implementation and comparison of the modern embedding-based approaches on Greek text, such as Top2Vec and BERTopic. Preliminary findings from our comparative analysis suggest that NMF produces coherent and diverse topics, capturing significant elements that characterize Greek tourism, such as popular destinations, cultural landmarks, and historical sites, while LDA tends to produce more general topics that cannot be easily and accurately summarized, as it incorporates various aspects like politics, tourism, and industry into a single topic. It is worth noting that this study is a work in progress and conclusive results will be

available and presented at the upcoming conference. Finally, while our study presents original contributions to the aforementioned areas, it is important to acknowledge several inherent limitations in our approach, starting with the nature of historical newspapers, which contribute to the complexity of accurate OCR extraction due to their varied printing styles, fonts, and linguistic nuances. The inherent difficulties of OCR, particularly when dealing with aged and deteriorated newspaper prints, have affected the overall quality of the extracted text. Furthermore, the scarcity for dedicated libraries for Greek text preprocessing presented a challenge in effectively cleaning the data obtained from OCR. Unlike more widely studied languages, the tools available for Greek are comparatively limited, which introduces complexities in the preparation of the corpus for analysis.

*Keywords: Topic Modeling, Machine Learning, LDA, NMF, Tourism*

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## ORGANIZING ARTIFICIAL INTELLIGENCE IN FAMILY BUSINESS: A KNOWLEDGE MANAGEMENT PERSPECTIVE

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### ABSTRACT

Family businesses represent a firm form that have been central to the international academic debate. In fact, family businesses are businesses that play a significant role in the world economy system and have a significant impact on the economic and social conditions of the local system. From a managerial point of view, family business is an extremely heterogeneous type of business, with peculiar organizational characteristics. In fact, family businesses are characterized by a culture influenced by both a business orientation and family values and dynamics orientation. However, family businesses are often associated with a low propensity to explore new innovative technologies and introduce new knowledge.

There is a vast academic literature which, through theoretical contributions and empirical observations, has observed the behavior of family businesses in response to issues related to knowledge management (KM). Accepted belief that knowledge represents a resource to be introduced into the organizational processes of family businesses to improve their operations, increase efficiency and remain competitive in the global market.

Addressing challenges, including using innovative technologies, such as artificial intelligence, represents the latest challenge for family businesses. Technological evolution has imposed a new challenge on family businesses, traditionally slow to adopt technological innovation, including the adoption of artificial intelligence (AI). Despite the extensive literature on family businesses and knowledge management, there are few studies that delve into the behavior of family businesses towards artificial intelligence in knowledge management.

For this reason, it is necessary to understand how to incentivize the adoption of AI in these complex organizations.

This study is based on a qualitative methodology, exploratory in nature. The data, both qualitative and quantitative, were collected through semi-structured interviews and questionnaires and analysis

of internal company documents. Two main decision makers of the family business were interviewed. The interviews lasted on average 45 minutes.

The main results of this study offer indications on the factors that can facilitate the introduction of AI within a family business. The results of this study highlighted that family businesses are aware of the strategic importance of knowledge management and, for this reason, the need to introduce AI systems and the introduction of artificial intelligence. Furthermore, the results of this study demonstrate skepticism and difficulties in the initial stages of introducing AI systems. The findings could offer interesting managerial implications for family business entrepreneurs. Artificial intelligence and its adoption, in fact, are crucial for the generation of competitive advantage and the valorization of knowledge.

*Keywords: Family Business; Artificial Intelligence; Knowledge management; Dynamic capabilities; Organizational knowledge*

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# **TECHNOLOGY, RISK, ARTIFICIAL INTELLIGENCE ACCEPTANCE, AND THE ADOPTION OF SMART DEVICES**

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## **ABSTRACT**

Artificial Intelligence (AI) and the Internet of Things (IoT) are revolutionizing device connectivity, promising significant societal and technological transformations. The market for IoT is rapidly expanding, with an estimated 125 billion devices by 2030. Despite the potential benefits, consumers remain apprehensive about adopting these technologies. This research explores the factors influencing the acceptance of smart devices and attitudes toward AI.

Keywords: Artificial Intelligence, Internet of Things, Smart Devices, and acceptance



## DISTRESSED M&A: A SYSTEMATIC LITERATURE REVIEW

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### ABSTRACT

While analyzing mergers and acquisitions (M&As) as opportunities for growth and strategic change (Bauer and Matzler, 2014), corporate finance and business management researchers understood that distressed M&A could have been a significant area of study in their field (Schendel et al., 1976; Balcaen et al., 2012; Renneboog and Vansteenkiste, 2019; Cefis et al., 2022). Distressed M&A involves companies facing financial distress that explore strategic options to reorganize their business instead of resorting to liquidation or bankruptcy, a phenomenon whose analysis can disseminate knowledge and awareness for all stakeholders who deal with enterprises in crisis (Altman et al., 2019). Even though the literature has offered various contributions about acquisitions of distressed assets (e.g. Jory and Madure, 2009; Amira et al., 2013), the research into the motivations behind acquisitions by distressed firms is scant (Zhang, 2022), but invigorating (Coyne et al., 2021; Nejadmalayeri and Rosenblum, 2022). In contrast to the intuition that corporate financial distress inhibits M&A activities, distressed firms contribute to an economically significant proportion of aggregate takeover activities (Zhang, 2022). Few literature reviews on such topics can be found, including one that focuses primarily on M&A with only a section concerning “distressed target acquisitions” (Renneboog and Vansteenkiste, 2019), another one that examines corporate distress and turnaround with only few hints to M&A (Schweizer and Nienhaus, 2017), and one final review that covers such themes altogether (Cefis et al., 2022), but still focuses primarily on firm exit. Based on our best experience, the topic of distressed M&A has not yet been studied systematically. Given the relevance of the topic, there is an impelling need for a Systematic Literature Review (SLR), that is the most valuable methodology for the advancement of knowledge and deepening research (Elsbach and Van Knippenberg, 2020). We carried out a framework-based review using the ADO-TCM integrated framework (Lim et al., 2021) that includes antecedents, decisions, outcomes, theories, contexts, and methods. To address the existing research gap, we formulated the following research questions: (RQ1): *What do we know about distressed M&A?* (RQ2): *How do we know about distressed M&A?* (RQ3): *Where should the research on distressed M&A be heading?* To achieve the research aim, we conducted a SLR according to the PRISMA protocol (Page et al., 2021). No time-related filter was applied, and the cut-off date is end of 2023. Scopus, the database used for the review, is considered the largest abstract and citation data warehouses in numerous subject fields, especially in business and management (Wu and Wu, 2017). We used a search string that includes a block of words related to the concept of distress (Kücher et al., 2019) and another one related to M&A

(Battisti et al., 2021). The exclusion-inclusion process was performed through the application of both qualitative and quantitative filters (e.g., ABS ranking, language, subject area, type of contributions), resulting in a sample of 122 papers. Our analysis reveals the dominant use of empirical articles, the majority of which employ quantitative methods, whilst literature reviews and theoretical papers account for a smaller portion of the research corpus. In terms of theories, our study anticipates a pronounced usage of the agency theory (Jensen and Meckling, 1976), highlighting its importance in contemporary research. In parallel, we envision moderate applications of the theory of optimal capital structure (Robichek and Myers, 1966), the signaling theory (Spence, 1973). In addition, we anticipate a diverse range of bibliometric references, including influential authors, prestigious journals, renowned affiliations, citations, as well as an analysis of publication trends. Through the comprehensive analysis of the existing papers, we present an integrative framework that outlines the characteristics of distressed M&A, offering insights into its drivers, strategies, and implications for various stakeholders. Our framework contributes to the literature as it aims to reinvigorate high-level academic discourse by providing a pathway for further investigation of this topic. In terms of practical contributions, we provide a comprehensive understanding that can inform policymakers, organizations, and stakeholders which, in turn, can help shape more effective strategies and practices aimed at restructuring firms and re-establishing the going concern.

*Keywords: Distress, Restructuring, M&A, Distressed M&A; Systematic literature review.*

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## CEO ARCHETYPES, CEO MANAGERIAL PERCEPTIONS, AND COMPANY PERFORMANCE: DEVELOPMENT OF A CONCEPTUAL MODEL

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### ABSTRACT

#### INTRODUCTION & AIM OF RESEARCH

Understanding a company's motivations and performance requires examining the inclinations of influential figures, particularly top managers (Hambrick, 2007). The CEO, acknowledged as the primary leader, plays a vital role in any organization (M. A. Abebe and Acharya, 2022). Insights into the impact of influential CEOs on company performance are essential for developing effective theories on this dynamic relationship (Qiao *et al.*, 2017).

Originating with Chandler in 1962, organizational life cycle (OLC) theory suggests that companies undergo transformations impacting leadership as they evolve (Fisher *et al.*, 2015). Conventional wisdom, supported by entrepreneurship literature, holds that expanding companies may outgrow their owner's capabilities (Willard *et al.*, 1992). While entrepreneurs can learn and evolve over time, a viable strategy is considering replacing the owner-CEO with a professional manager, especially if they struggle to adapt (Ling *et al.*, 2007). This becomes a reasonable option when the owner-CEO struggles to adapt their values, skills, and behaviors successfully (Ling *et al.*, 2007). The expectation is that a new (professional) CEO can undertake tasks and initiatives that the owner may be unable or unwilling to pursue (Wasserman, 2017).

A primary objective of companies is the creation of shareholder value, reflected in financial performance measures, thus understanding the relationship between a CEO and company performance is a crucial focal point for a broad spectrum of research agendas and managerial practice (Crossland & Hambrick, 2007). Accordingly, this study aims to conceptualize the relationship between CEO archetypes, CEO managerial perceptions, and company performance.

#### CEO ARCHETYPES

In the scholarly literature, CEOs are commonly classified into three prominent groups: founder-CEOs, family-CEOs, and professional-CEOs, while shareholder-CEOs constitute a less prevalent category. Founder-CEOs, functioning as entrepreneurs, start and own the company, also serving as its CEO. Shareholder-CEOs are (partial) owners of the companies they lead. Family-CEOs hold the CEO position and have substantial ownership or controlling interest within the family. Conversely,

professional-CEOs lack direct or indirect shareholding and are typically seasoned executives chosen for their requisite skills.

This study utilizes ownership or shareholding as an objective criterion, grouping family-CEOs with equity or shares into the owner-CEOs category, alongside founder-CEOs and shareholder-CEOs. Professional-CEOs, lacking ownership stakes, are treated as a distinct category, aligning with the conventional approach in the field.

## CEO MANAGERIAL PERCEPTIONS

CEO *managerial ability*, encompassing strategic decision-making and resource-leveraging skills, plays a pivotal role in shaping a company's operational features and overall performance (Foong & Lim, 2023; Hensellek *et al.*, 2023; Simamora, 2021). Owner-CEOs, distinguished by centralized decision-making and a limited managerial skill set, differ significantly from professional top-level managers (Foong & Lim, 2023; Smith & Miner, 1983). Overconfidence in managerial decisions significantly influences *risk propensity*, with owner-CEOs often displaying higher overconfidence levels and a pronounced inclination for risk compared to risk-averse professional-CEOs (Sutrisno *et al.*, 2022; Kumar *et al.*, 2021). In the realm of *innovation*, CEO characteristics significantly contribute to a company's ability to innovate (Kiss *et al.*, 2022), with owner-CEOs demonstrating a higher inclination and effectiveness in innovative practices, particularly in flexible institutional environments (J. (Simon) Kim & Koo, 2018). *Entrepreneurial orientation*, crucial for company establishment and survival (Verdú-Jover *et al.*, 2023), is positively correlated with owner-CEOs (Deb & Wiklund, 2017), although challenges may arise in translating entrepreneurial initiatives into profits as company size and complexity increase (Bauweraerts *et al.*, 2023). In terms of *motivation* and incentives, the compensation structure varies between owner-CEOs, who often accept reduced compensation (Na *et al.*, 2023; Mazur & Wu, 2016), and professional-CEOs, whose performance is significantly linked to pay-performance sensitivity (Barak *et al.*, 2011).

## CEO AND COMPANY PERFORMANCE

The financial success or failure of many companies is often attributed to the characteristics of their CEOs (Altarawneh *et al.*, 2020; Westhead & Howorth, 2006). Despite the extensive body of literature examining the linkages between company financial performance and the CEO's archetype, research has not yielded definitive findings (Liu and Polkinghorne, 2023; Altarawneh *et al.*, 2020). However, a more dominant position is that there is a generally significant relationship between CEO type and company performance (Altarawneh *et al.*, 2020).

## DEVELOPMENT OF A CONCEPTUAL MODEL

Figure 1 presents a conceptual model illustrating the relationship between CEO archetypes, CEO managerial perceptions, and company performance. Furthermore, in accordance with OLC theory, the theoretical framework recognizes that company-level factors may influence the selection of either an owner-CEO or a professional-CEO to lead the company. Additionally, grounded in human capital theory, the framework establishes the significance of individual-level factors and their relationship to CEO managerial perceptions.

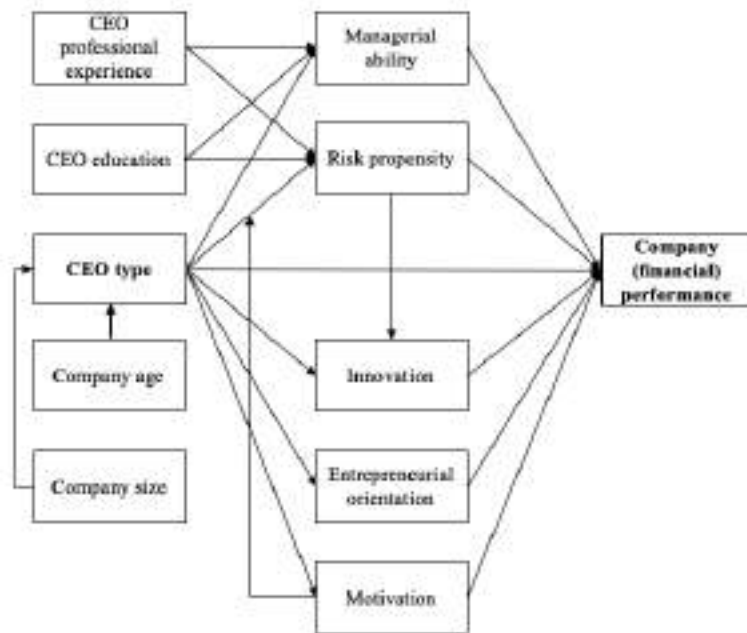


Figure 1. Conceptual model of the relationship between CEO archetypes, CEO managerial perceptions, and company performance

This conceptual framework offers a blueprint for forthcoming empirical investigations. The outcomes of such inquiries are anticipated to inform pragmatic decision-making processes, advocating for a sophisticated approach toward CEO recruitment that harmonizes with the company's stage within the OLC, thereby enhancing overall company performance. Moreover, such endeavors stand to enrich management theory by providing deeper insights into the intricate nexus between CEO types, their managerial perceptions, company-level and/or human capital parameters, and, ultimately, the financial performance of the company.

*Keywords: Owner-CEO, Professional-CEO, Managerial perceptions, Corporate governance, Company performance, Organizational life cycle.*

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**THE IMPACT OF SOURCE CREDIBILITY, TIE STRENGTH AND HOMOPHILY  
IN DIVERSE AND INCLUSIVE MICRO SOCIAL MEDIA INFLUENCER  
CAMPAIGNS: A COMPARISON BETWEEN THE GENERATION Z LGBTQ+  
COMMUNITIES IN THE UK AND CHINA**

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**ABSTRACT**

Within the retail sector, there has been a recent interest in targeting much broader and diverse social groups within society beyond the mainstream. Concurrently, the widespread use of social media platforms has empowered both social media influencers and consumers to express their opinions about retail brands and their approaches to diversity. Evidence suggests that consumers are inclined to generate positive electronic word-of-mouth (eWOM) when they are satisfied with campaigns (Sharma, 2023; Chu et al., 2022). This study will focus on the LGBTQ+ community because this group has been shown to be significantly influenced by campaigns advocating for social diversity and inclusivity (Hu et al., 2022; Li, 2022). Specifically, this study further examines the impact of diverse and inclusive social media influencer campaigns on the positive eWOM for retail fashion brands among the Gen Z LGBTQ+ community. The novelty of this study lies in its focus on a cross-cultural comparison from Eastern and Western perspectives, with a specific emphasis on Generation Z LGBTQ+ communities in the UK and China. This study develops a conceptual framework that integrates constructs from the Theory of Planned Behaviour (TPB) with the Online Social Network (OSN) Model. Specifically, a quantitative approach is employed to test the influence of source credibility, tie strength and homophily among micro social media influencers, as well as the impact of their diverse and inclusive campaigns on the attitudes and positive eWOM intentions within the Gen Z LGBTQ+ community in the UK and China. A survey was conducted on social media platforms—Instagram and Xiaohongshu—with a sample size of 400 respondents. The theoretical significance of this study lies in gaining an in-depth understanding of the factors influencing positive eWOM among specific minority groups in the contemporary online retail environment in the UK and China. In terms of social and practical implications, this study helps to raise business awareness of the impact of diverse and inclusive campaigns, thereby assisting retailers to develop more effective social media campaigns.



Keywords: Source Credibility, Tie Strength, Homophily, eWom, Micro Social Media Influencer, Influencer campaigns, LGBTQ+ Community.

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# EXPLORING HOW TOLERANCE OF AMBIGUITY RELATES TO CROSS-CULTURAL COMPETENCIES IN A JAPANESE MNE

## EXPLORING HOW TOLERANCE OF AMBIGUITY RELATES TO CROSS-CULTURAL COMPETENCIES IN A JAPANESE MNE

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### ABSTRACT

MNEs' management and leadership in the world of volatility, uncertainty, complexity, and ambiguity (VUCA) need to be discussed more (Cavusgil *et al.*, 2021; Van Tulder *et al.*, 2020). Strategic institutional or functional levels of analysis on international organizations in a VUCA world have been made (see, Van Tulder *et al.*, 2020; Hamid, 2019). Yet, research on the individual level of MNEs' employees has been relatively ignored except that of expatriates. MNEs' parent country nationals (PCNs) and host country nationals (HCNs) have increasing opportunities to experience ambiguous situations triggered by culturally different people inside and outside their organization; however, their cross-cultural experiences and behaviors still remain unknown sufficiently. Accordingly, the aim of the present study was to explore how parent and host country nationals' tolerance of ambiguity in cross-cultural situations relates to their cross-cultural competencies: particularly, building relationships, translation of complex information, and conflict management. These three competencies are considered to be important for cross-cultural learning and adaptation (Yamazaki and Toyama, 2022).

We collected data from a Japanese MNE. Its business line was to produce automobile parts in Japan and Indonesia. The total number of research participants was 508: 453 Japanese PCNs and 55 Indonesian HCNs. To examine tolerance of ambiguity in cross-cultural situations, the present study applied the modified version of the Revised Interpersonal Intolerance of Ambiguity Scale (Tomono and Hashimoto, 2005). Its Cronbach's alpha was 0.91 on the same sample of 508 employees. To assess three cross-cultural competencies, the study employed the Cross-Cultural Competency Scale (Yamazaki and Toyama, 2022). We conducted the scale investigation of the three-factor measurement model using the same sample by CFA. Results of the CFA indicated the fit indices fell within a mostly acceptable range ( $\chi^2= 242$ ,  $p < .001$ ; GFI = 0.918; CFI = 0.969; NFI = 0.963; RMSEA = 0.098; SRMR = 0.026). Cronbach's alphas for building relationships, translation of complex information, and conflict management were 0.93, 0.93, and 0.94 respectively. Research ethics approval for this study was granted by the Faculty of Business Administration at the authors' university.

Before analyzing the relationships between tolerance of ambiguity and three cross-cultural competencies, we examined whether their perceived levels differed statistically between Japanese PCNs and Indonesian HCNs. Results of the independent t-test revealed that the mean scores of the four key variables of Japanese PCNs (i.e., tolerance of ambiguity, building relationships, translation of complex information, and conflict management) were significantly lower than those of Indonesian HCNs ( $p < 0.01$ ). Accordingly, this study analyzed the relationships separately for the two national groups. By controlling three demographic variables of age, managerial positions, and overseas experiences, results of regression analysis on Japanese PCNs illustrated that the tolerance of ambiguity significantly affected all three cross-cultural competencies ( $p < 0.01$ ). Consistently, results of the regression analysis on Indonesian HCNs revealed significant relationships between the tolerance of ambiguity and the three cross-cultural competencies ( $p < 0.01$ ).

Our findings led us to conclude that the tolerance of ambiguity of both PCNs and HCNs in cross-cultural situations is a crucial factor to be focused for their talent development in three cross-cultural competencies: building relationships, translation of complex information, and conflict management. Future research should include other countries' employees of MNEs with different cross-cultural competencies that can be identified in the international business literature (see, Caligiuri *et al.*, 2019).

*Keywords: Tolerance of ambiguity, cross-cultural competencies, international human resource management, Japanese employees, Indonesian employees, Japanese MNEs.*

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# THE IMPACT OF CRYPTO ASSETS ON THE EUROPEAN FOOTBALL INDUSTRY

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## ABSTRACT

This research investigates the risks and challenges linked to the swift and unregulated integration of crypto assets into the European football ecosystem. Furthermore, it aims to develop a set of recommendations for more effective engagement. This paper applies a theoretical approach, by reviewing the existing literature on cryptocurrencies and blockchain technology to understand market dynamics and factors influencing their adoption and impact in football. The literature analysis revealed that integrating cryptocurrency trading within the football industry presents several significant challenges. These challenges encompass regulatory uncertainties, market volatility, and the necessity for robust cybersecurity measures. Furthermore, the industry must address the potential for financial mismanagement and consider the ethical implications associated with cryptocurrency use. Given the increasing interest in digital currency among European football clubs, this project holds significant relevance, as it has the potential to transform various facets of the sport, including economic and financial stability, fan engagement, and technological innovation. The findings offer valuable insights club executives, and policymakers, to make informed decisions regarding the adoption and management of crypto assets in the football industry.

*Keywords: European Football; Blockchain technology; Crypto assets; Cryptocurrencies; Fan tokens; NFTs; Market volatility*

## **ALGORITHMIC MANAGEMENT IN DATA-DRIVEN ORGANIZATIONS: ETHICS AND RESPONSIBILITY FOR EFFECTIVE CHANGE MANAGEMENT**

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### **ABSTRACT**

#### **INTRODUCTION AND BACKGROUND**

Data is crucial to the economies of the most advanced countries and their innovation processes (Loeillet, 2024). The incorporation of Big Data and Predictive Analytics technologies has often been associated with successful decision-making in organizational management, underscoring the significance of a data-driven approach (Akter et al, 2016). Data-driven management indeed enables objective decision-making based on data at all levels of a company, from upstream planning to downstream implementation of any activity. It refers to use of data to inform decision-making at both strategic and operational levels (Castaldo and Gatti, 2021). This approach differs from decision-making based on intuition, hunches, feelings, or other subjective perceptions of managers and/or entrepreneurs.

Many authors stress the importance of using data and analytics to inform business decisions, optimize performance, and identify growth opportunities. In the context of data-driven management, these authors describe the use of data within so-called 'data-driven organizations' to make informed, effective, and efficient decisions, resulting in superior business outcomes (Anderson, 2015; Basukie et al., 2020; Schneider et al., 2023).

Related concepts to data-driven management include 'data-driven organization', 'data-driven culture', and 'data-driven innovation'.

Data-driven organizations base their decision-making processes on robust data processing, which becomes a strategic asset for improving performance and gaining a competitive advantage (Anderson, 2015). In a hyperdynamic and ultracomplex scenario (Volpe and Castaldo, 2021; Zanda and Castaldo, 2023), companies developing data-driven business models require flexibility, adaptability, timeliness, and resilience to succeed (Castaldo and Gatti, 2019; Castaldo, 2021).

A data-driven culture is integral to a data-driven organization. This culture involves using data to support business objectives, enabling employees at all levels to inform their work with data analysis, resulting in better outcomes and greater efficiency (Datnow and Park, 2014).

Data-driven innovation then refers to identifying and creating new business opportunities through the exploitation of data and analytics (Zanda et al., 2022). The process involves using insights gained from data analysis to identify market trends, customer needs, and emerging potential. This can lead to the development of new products, services, business models, and improvements to existing offerings (Zanda, 2018).

The above-mentioned language emphasizes the importance of data as a strategic resource to improve decision-making, optimize performance and foster a culture that values data-driven insights in support of business objectives (Datnow and Park, 2014).

The term 'algorithmic management' refers more properly to the use of algorithms and digital technologies to make managerial decisions within an organization (Basukie et al., 2020; Jabagi et al., 2020; Schneider et al., 2023). These tools can optimize decision-making processes in strategic planning, personnel selection and management, performance evaluation, and more (Heinrich et al., 2022; Jarrahi et al., 2021).

Algorithms can analyze large amounts of data to identify scenarios, trends, patterns, and opportunities (Castaldo, 2020b). This can guide managerial decisions and automate decision-making in different domains, enabling more efficient and faster decision-making. Moreover, organizations are increasingly turning to analytics utilizing complex data sets to effectively manage organizational change, highlighting the shift towards data-driven management practices (Hurbean et al., 2023; Jarrahi et al., 2021). The use of these tools can help reduce human bias and increase decision objectivity. However, algorithms can also be used to tailor managerial decisions to the specific preferences of individuals or groups within an organization (Loeillet, 2024; Nagle et al., 2017). Therefore, the use of algorithms in decision-making raises important quality, legal and ethical issues (Castaldo, 2020a; Martin, 2019; Nagle et al., 2017). These include the transparency of decisions, accountability for automated decisions, and the protection of data privacy (Schildt, 2017; Trentesaux and Karnouskos, 2022). In the case of automated decisions made by algorithms, it is therefore crucial to maintain human supervision and control to ensure that the decisions made are ethical, fair, balanced, non-discriminatory, and aligned with the objectives of the data-driven organization (Castaldo, 2020a; Coeckelbergh, 2020; Lee, 2018).

Although algorithmic management offers undeniable advantages in terms of efficient decision-making, its employment requires careful change management within the organization (Castaldo, 2022; Martin, 2019). Its implementation must cover personnel training and change management (Kotter, 2009), compliance with regulations and laws, data privacy (Schildt, 2017; Trentesaux and Karnouskos,

2022) decision transparency and accountability (Adensamer et al., 2021), security and cybersecurity (Castaldo, 2021), ethical considerations (Coeckelbergh, 2020) and potential social, economic, and environmental impacts. This includes, *inter alia*, minimizing resource usage and the carbon footprint associated with digital systems.

## **OBJECTIVES**

The aim of this research is to provide a theoretical examination of algorithmic management in data-driven organizations and an empirical investigation of its actual efficiency, effectiveness, and fairness, also for responsible change management.

To this end, an in-depth analysis will be conducted with the top management of selected large companies and/or data-driven organizations operating globally.

## **METHODOLOGY**

To address the research question of whether algorithmic management is indeed based on efficiency, effectiveness and fairness, a qualitative approach will be employed, based on 30 semi-structured interviews conducted with a selected sample of top managers of innovative large companies and/or leaders of data-driven organizations.

Once collected, analyzed, and compared to similar research and the extant literature on algorithmic management and innovative data-driven organizations, the respondents' data will be employed to generate a model proposal suitable for future, broader research. Any gaps or inconsistencies in the existing literature will be duly analyzed and filled in.

## **EXPECTED RESULTS**

Given the exploratory nature of the study, the findings are only marginally speculative. Nevertheless, the expected results are in the direction of a divergence of opinion on the fairness of algorithmic management, while there should be a greater degree of consensus on the effectiveness and efficiency of such management.

## IMPLICATIONS

The proposed study, which aims to make an important theoretical and practical contribution, is expected to have an impact at both theoretical and practical levels. The main implications will be managerial and organizational for large companies, while to a lesser extent and by extension, the results could provide interesting insights for smaller companies and, in a broader sense, for decision makers of all kinds of complex organizations (such as public or non-profit organizations, administrative bodies, political entities).

## LIMITATIONS

Given the exploratory nature of the research, the main limitation is the low representativeness of the results on the universe of global large companies. However, future and broader research is hoped to overcome this limitation, particularly by evaluating the conceptual soundness and accuracy of the proposed model.

*Keywords: data-driven organizations, algorithmic management, organizational change, change management, innovation, culture, ethics, responsibility*

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# INVESTIGATING THE FACTORS DRIVING THE AVOIDANCE OF SECONDARY PROPHYLAXIS PROGRAMS: A CASE STUDY FROM LITHUANIA

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## ABSTRACT

This study investigates the complex reasons behind the avoidance of secondary prophylaxis programs in Lithuania. Despite the known benefits of these programs in preventing the progression of non-communicable diseases (NCDs), participation rates remain low. The statistical analysis reveals that approximately 40 % of the target group population is actively participating in preventative programs. Our research identifies multifaceted factors, including psychological barriers, systemic inefficiencies, and sociocultural influences that deter individuals from engaging with these health services.

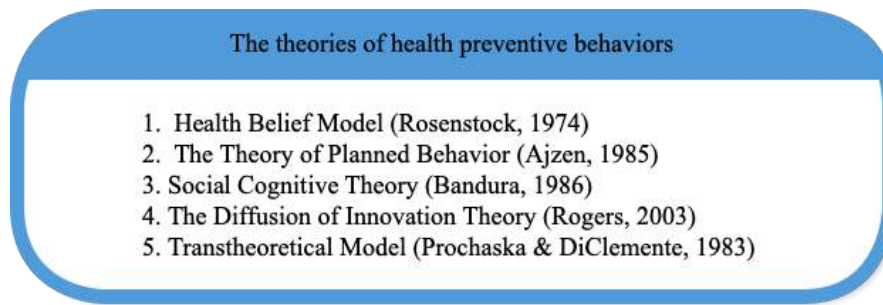
## INTRODUCTION

Secondary prophylaxis programs play a significant role in public health by preventing disease progression among those diagnosed with NCDs, which contribute to over 74% of global deaths (WHO, 2023). These programs, through early detection and management of conditions like hypertension and cancer, aim to understate the impact of NCDs, lowering untimely mortality, and reducing overall healthcare costs (Li et al., 2014). However, the success of preventative programs relies on effective access, public awareness, and patient engagement. Barriers such as lack of awareness and systemic inefficiencies need to be eliminated to increase the program participation (Donohue et al., 2023). Despite efforts in Lithuania, participation remains low, emphasizing a need for enhanced engagement strategies.

## THEORETICAL BACKGROUND

Literature highlights a range of factors affecting health program participation, including fear of diagnosis (Vrinten et al., 2017), lack of awareness (Mphande, 2016; Mosca, 2005), and distrust in healthcare systems (Green & Thorogood, 2018). Integrating these perspectives provides a comprehensive understanding essential for addressing the gaps in the usage of secondary prophylaxis

programs. The text synthesizes five foundational theories (Picture 1), explaining health preventive behaviors and their application in understanding participation in secondary prophylaxis programs.



Picture 1. The theories of health preventive behaviors. Created by authors

Collectively, these theories offer a comprehensive view on motivating factors for participation in health programs, emphasizing the need to consider personal, cognitive, and social dimensions in intervention design. These theories may help to identify and understand the multifaceted effects on health behavior related to secondary prophylaxis program participation.

## METHODOLOGY

A qualitative case study approach was adopted, employing semi-structured interviews with 16 participants who are involved in policy formation and performance, the supply of the health care services and participating in secondary prophylaxis programs within Lithuania. Purposive respondents sampling ensured a diversity of experiences and perspectives. Data were analyzed using thematic analysis (Braun & Clarke, 2006), applying principles of open and axial coding to identify emergent themes, that could be grouped to categories and subcategories, followed by selective coding to refine the understanding of core issues.

## RESULTS

Our findings detect several key causes behind program avoidance:

1. *Psychological Barriers*. Fear of a confirmed diagnosis emerged as a significant deterrent, consistent with (Durazo, 2019) findings.
2. *Systemic Inefficiencies*. Participants cited long waiting times and procedural complexities (McIntyre et al. 2020) as critical barriers to their engagement with health services.
3. *Sociocultural Influences*. Societal stigma and cultural perceptions around disease were also identified as factors discouraging participation (Stangl, 2019).
4. *Knowledge and Awareness Gap*. A general lack of targeted information on the importance of secondary prophylaxis was evident, highlighting a disconnect in communication strategies (Green & Thorogood, 2018).

## CONCLUSION

The avoidance of secondary prophylaxis programs in Lithuania is influenced by a several factors related to psychological, systemic, and cultural domains. Addressing these issues requires a complex approach, including enhancing patient education, streamlining healthcare processes, and culturally sensitive communication strategies. Future interventions should consider these diverse barriers to improve participation rates and, eventually, public health outcomes.

*Keywords: Secondary prophylaxis, non-communicable diseases, health behavior, program participation.*

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## THE STARUP DILEMMA OF MARKET EXPANSION

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### ABSTRACT

### BACKGROUND

In the dynamic landscape of startups, the strategic decision regarding the pace of international market expansion remains a crucial dilemma. Entrepreneurs often grapple with the choice between rapid entry into multiple markets and a more cautious approach that allows for thorough analysis and confidence-building in new territories. While this dilemma intersects with the overarching goal of achieving growth versus prioritizing profits, they are not synonymous. Growth can sometimes be attained by focusing efforts on a select few markets rather than spreading resources thinly across expansions. However, for innovative companies with entrepreneurial spirit, international market expansion represents a significant avenue for growth. Recent shifts in the global economic climate have underscore the importance of profitability for startup investors, intensifying the strategic discourse within the startup ecosystem. This trend is particularly pronounced in the realm of Software as a Service (SAAS), where rapid growth is often perceived as essential for survival.

### PURPOSE

The paper seeks to delve into the multifaceted considerations that influence the decision-making process regarding the rate of market expansion. Building upon existing literature, it takes into account contemporary developments in investment trends and economic landscape.

### FINDINGS

Three relevant areas and nine factors for the market expansion issue were identified:

#### 1. Marketing considerations:

**Nature of the product:** The type of product being offered by the startup plays an important role in determining the optimal pace of market expansion. The product complexity, newness and digital options are key factors. Different products may require varying ways of testing, adaptation to local preferences, delivery opportunities and infrastructure support.

**Response function dynamics:** There are at least two very different response functions to new product introductions. Factors such as satisfaction of existing demand, costs of buying and product use and competitive availability affect customer's response. The expansion strategy

would be greatly influenced by the nature of the expected response and the likelihood of success at different rates.

**Competitive lead time:** The speed at which competitors are likely to respond to the startup can impact market expansion. A usual goal is to establish a solid pioneering position in many markets prior to competitive entry.

## 2. Investment considerations:

**Financial position of the firm:** Many startups have financial needs beyond their available resources. The need to raise additional capital is frequently a major consideration affecting all strategic decision including market expansion.

**Investment availability:** the ease of raising funds from venture capital firms, and other sources, is influenced by ups and downs of economic expectation. When investment availability is high a startup firm can normally assume more risks of fast market expansion.

**Funding requirements:** Is profit or growth more important to get funded? The investors' expectations tend to change over time. When profit becomes a more critical criterion, the rate of market expansion is likely to be affected.

## 3. Management considerations:

**Management objectives:** The strategic goals and priorities of the startup's management team influence all key decisions including market expansion. The need for control, prior experience, the desire for a pioneering impact and the importance of early profitability will influence expansion decisions.

**Risk tolerance:** Management appetite for risk affects the willingness to pursue aggressive market expansion strategies. Startups need to balance the potential rewards of rapid growth with the associated risks, including financial, operational and reputational risks.

**Management cohesion:** Aggressive market expansion requires agreement by members of the management team about objectives and strategy, especially with regard to the time horizon and risk taking. When cohesion within the management team is lacking it is difficult to employ a bold strategy.

## CONTRIBUTION

These key findings highlight the multifaceted nature of the market expansion dilemma faced by startups. The paper emphasizes the importance of considering various factors, including marketing dynamics, investment requirements and management priorities. By understanding and addressing these factors, startups can make informed decisions and navigate the complexities of market expansion more effectively.

*Keywords: Startup, Market Expansion, Growth, SAAS, Profit, Investment. International.*

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# PROMOTING CORPORATE SOCIAL RESPONSIBILITY: THE IMPACT OF ENVIRONMENTAL DISCLOSURES ON GENERATION Z'S PURCHASE INTENTIONS – A SHEIN CASE STUDY

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## ABSTRACT

The e-commerce fast fashion industry, encouraging over consumption of ever-changing cheap fashion items is one of the most growing e-commerce sectors in the world. Alongside the growth of the fashion industry, a major critical debate regarding its societal and environmental damages is affecting the industry (Quiles-Soler et al., 2023). The starting point of the current study is that pro-environmental behavior may be manifested not only by enhancing the purchase intention (PI) of sustainable fashion brands, but also by reducing the purchase intention of unsustainable fast fashion brands such as SHEIN. Extensive research focused on promoting sustainable behavior by introducing positive information about sustainable brands has revealed an attitude-behavior gap. However, only a few studies have assessed the effectiveness of information about the *negative* social and environmental impact of non-sustainable brands on attitudes and behaviors (Connell and Kozar, 2012).

The current research focuses on generation Z consumers, who were born between 1995 and 2010 and have grown up amid climate change concerns and are considered to be the most environmentally conscious generation from the one side (Walker, 2021) and one of the main target audiences of SHEIN from the other side. The Gen Z relationship with fashion was already described as complicated – a desire for sustainable fashion on the one hand and enjoying excessive clothes shopping on the other (Lissitsa and Kol, 2021). As the knowledge of consumers plays a direct role in their attitudes as well as behavior intentions, the study purpose is to understand whether providing SHEIN's consumers negative information about social and environmental impact of the brand affects their purchase intention and which consumers' values are related to the decrease in it.

This study is based on an online survey among 607 Gen Z SHEIN consumers, born between 1995-2003, aged 18-26. The questionnaire was presented in the following order: 1) respondents were asked about their attitudes toward the brand SHEIN, purchase intention and purchase behavior regarding SHEIN, materialistic motivations to buy fashion and objective knowledge about environmental issues in the fashion industry, and ascription of responsibility for sustainability; 2) the respondents were provided with information about the extremely low sustainability of SHEIN addressing use of polluting



chemicals, poor working conditions, and air pollution through product distribution around the world; 3) the respondents were asked about feelings of deception, attitudes toward SHEIN and PI (the same items as before the information was provided).

The descriptive statistics show that respondents reported high initial PI of SHEIN products ( $M=5.53$ , scale 1-7), which decreased ( $M=4.06$ ,  $SD=1.88$ ) significantly after receiving environmental information ( $t(606)=23.6$ ,  $p<0.01$ ). The attitudes toward SHEIN before receiving environmental information were relatively positive ( $M=5.42$ , scale 1-7) but decreased significantly ( $M=3.62$ ) after exposure to environmental information ( $t(606)=31.1$ ,  $p<0.01$ ). The respondents reported a moderate feeling of deception ( $M=4.33$ , scale 1-7). Objective knowledge of sustainability of fast fashion was relatively low ( $M=2.26$  scale 0-6). Consumer materialistic motivations to buy fashion were medium-low ( $M=3.56$ ,  $SD=1.56$ ), while consumer ascription of responsibility for fashion sustainability was medium ( $M=4.32$ , scale 1-7). Multivariate analysis indicates that the gap in purchase intention before and after providing negative environmental information is only explained by a decrease in positive attitudes toward SHEIN and by feelings of deception after exposure to negative information. The association between other independent variables derived from the generational identity of Generation Z: objective knowledge on online fashion, ascription of responsibility and materialistic motivations and the gap in purchase intention were insignificant.

Exploring the complex domain of Generation Z's perceptions, our study reveals nuances and unexpected dynamics in terms of attitudes, purchase intentions, and materialistic tendencies among SHEIN consumers which challenge prevailing assumptions and strongly suggest a reevaluation of generational stereotypes. Contrary to expectations, "digital natives" Gen Z displayed limited knowledge of fashion's environmental impact. Exposure to negative environmental information surprisingly led to a decline in both attitudes and PI for SHEIN, challenging the conventional attitude-behavior gap seen in sustainable brands and emphasizing the importance of accurate communication from independent sources in ethical decision-making

Insights into the attitudes and behaviors among SHEIN consumers can help policy makers and marketers promote the adoption of sustainable-oriented attitudes and ethical behaviors by reducing the purchase of non-sustainable brands. To enhance Corporate Social Responsibility, companies should prioritize transparent and honest communication about their sustainability efforts, making sure consumers are well-informed about the environmental impact of their purchases. Engaging in ethical marketing strategies that inspire and motivate rather than exploit consumer fears can lead to a more positive brand perception and drive sustainable purchasing behaviors. Companies should also

explore product lifecycle management initiatives, such as recycling or upcycling programs, to reduce waste and encourage consumers to participate in sustainability practices. Finally, exceeding legislative compliance by adopting higher environmental standards can set a brand apart as a promoter of corporate responsibility, aligning with the values of environmentally conscious consumers, especially those from Generation Z.

*Keywords: sustainable consumption, Generation Z, fashion, environmental information, environmental knowledge, sustainability*

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# ADVERTISING IN TIMES OF CRISIS: COMPARING STRATEGIES AND CONSUMER RESPONSES BETWEEN WARTIME AND ROUTINE CONDITIONS

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## ABSTRACT

This paper investigates the impact of advertising strategies on consumer attitudes toward ads and brands during periods of crisis. It focuses on comparative analyses of routine and wartime contexts. By analyzing TV commercials and conducting surveys across two distinct periods, the study reveals significant shifts in advertising content and consumer responses. Results indicate that during wartime, ads adopted altruistic and informational appeals, emphasizing empathy and brand contribution to consumer well-being. This leads to perceived excitement and credibility with increased brand recognition and brand trust. In contrast, routine time ads prioritize individualistic and transformational appeals, focusing on enjoyment and future aspirations. The findings align with the Response Advertising to National Crises approach, highlighting the importance of sincere messaging in reducing consumer uncertainty and perceived risk during crises. The study underscores the significance of brands demonstrating crisis awareness and commitment to consumer welfare. It offers valuable insights for advertisers navigating turbulent times.

*Keywords: Response advertising to national crises; Cause-Related Marketing; TV commercials; Effectiveness; Attitude toward the ad; Attitude toward the brand; Informational appeal; Transformational appeal; Altruistic message; Individualistic message.*



